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MINNESOTA MEDICINE

Journal of the Minnesota State Medical Association

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OCTOBER, 1921

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VOL. IV

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ORIGINAL ARTICLES

MINNESOTA MEDICINE IN THE MAKING: PERSONAL REMINISCENCES*

C. EUGENE RIGGS, M. D.
St. Paul, Minn.

Members of the Minnesota State Medical Association,

Ladies and Gentlemen:

In deciding upon what topic I should address you today, it occurred to me that it might possibly be of interest to you to hear some recollections of Minnesota Medicine in the making. The subject is too large to treat exhaustively and too broad for any one man's experience to cover it all. So, please remember, I only aspire to give you a few personal impressions. Forty years ago the practice of medicine in Minnesota was quite different from what it is today and there are few men left in active practice whose memories cover both phases. We have traveled a long way, hoped greatly, achieved much—and the end is far off.

As you know, all young doctors are haunted by a problem and a fear—the problem of where to locate; the fear of unsuccess in the chosen place. In my young days I was interne in a Baltimore hospital and in the course of wrestling with these anxieties, I wrote, among other letters of inquiry, one to Dr. A. J. Stone, asking about the advantages of St. Paul as a location. Shortly afterward he came to Baltimore. I had never seen Dr. Stone, nor he me, of course, but one morning he met me on the street several blocks from the hospital, stopped me and inquired if I were Dr. Riggs. Answering in the affirmative, I inquired how he knew me.

He replied, "It would be no insult, Sir, to ask any man if he were Dr. Riggs."

The characteristic cleverness, tact and bonhomie of this response may have had something to do with making me feel that St. Paul was an appreciative and congenial spot. At all events, after talking it over with Dr. Stone, I came to St. Paul in the spring of 1881. It was then a city of 43,000 people. Being a pioneer city, as it was, with the roads out around it mere prairie trails and good hunting to be had on its very borders, it certainly had less to boast of in respect to medical equipment and hospital facilities than older cities of its size further east. But I firmly believe it was unequalled in one thing—the *personal quality* of its medical men.

Soon after arriving, I attended my first meeting of this honorable body. It was held in Minneapolis and I have a very clear remembrance of it. The papers were interesting and well discussed and a delightful spirit of *camaraderie* prevailed, but the personnel of the men I met there impressed me more than anything else. These were fellow-workers who would spur a man to do his best. They were real men. They were strenuous, eager, active, simply saturated with the finer ideals of the profession. Medicine to them was not a business to be estimated cold-bloodedly in terms of the money it brought in, but a profession to be followed with joyous enthusiasm. They were as brothers banded together to fight disease and death in the fear of God and the love of man.

Do you think I am getting too flowery? I assure you I cannot overstate the strength of this early impression.

Among the outstanding figures in the medical life of that day were Stone, Wheaton, Flagg, Smith, Senkler, Leasure, Murphy, Owens, Hand, Atwood, Stewart of St. Paul; Dunsmoor, Abbott, Kimball, Hill, and French of Minneapolis; Millard, Merrill, Pratt and Clarke, of Stillwater;

*Presidential address before the annual meeting of the Minnesota State Medical Association, Duluth, Aug. 25, 1921.

Rose and Wood of Faribault; the elder Mayo of Rochester; Warner, Harrington and Davis of Mankato; Staples and McGaughey of Winona; Teft of Plainview; Workman of Sleepy Eye, now of Tracy; Ritchie, Collins, Walbank and McCormick of Duluth. Some of these were pioneers whose experiences went back to territorial days.

Younger practitioners coming among these men found them unselfish and courteous. It really seemed as if they could not do enough for the younger men. Instances will speak louder than words. As one example of the general attitude, I recall Dr. Stone taking an operation for a young physician and turning over to him the entire fee—\$175—a sum much larger to the latter than ten times that amount today. One of the local men, anxious to be a surgeon, but without the qualifications, undertook a tracheotomy for diphtheria and asked Dr. Wheaton to be present. He got frightened and stopped the operation. The child would have died had not Dr. Wheaton stooped down, sucked out the membrane with his own mouth and finished the operation. These things were all in the day's work with these men.

Yet I would not have you think that these men of early days were too perfect to be human. Far from it. The salary of the Health Officer then was fifty dollars per month, and there is a well authenticated tale that one year twelve leading doctors served month about at the work, and at the year's end blew in the entire six hundred dollars in one grand convivial banquet. You could hardly spend that amount in these prohibition days.

About this time I attended my first meeting of the Ramsey County Medical Society. It was held in the office of the late Dr. A. E. Senkler, over Lambie's drug store, at the corner of Third and Wabasha streets. It was an informal, home-like affair, with ten or a dozen present, among whom I recall Stone, Boardman, Wheaton and Senkler. The latter was St. Paul's pioneer internist—a modest, kindly gentleman, but a strong, forceful personality, loved by his patients, respected and popular with his confreres—a knightly soul. From that beginning has grown the large and wonderfully efficient Ramsey County Medical Society of today.

In the fabric of medicine today, the specialist is the warp and half the woof. It was far otherwise forty years ago. That was the day of the general practitioner. When I first came to St. Paul it may be said that, aside from eye and ear work, everybody did everything. Certain men were outstanding in surgery, and these became specialists later, when conditions better favored such development. It amuses me now to remember that I then meant to specialize in surgery and gynecology. There never was a person less adapted to this line of work than myself.

Neurology was non-existent as a specialty in this state, and indeed the neurologists were but a feeble folk anywhere at that time. The researches of Golgi, Cajal and their co-workers were yet to completely revolutionize our conception of the elements of which the nervous system is constructed and their arrangement in its architecture.

In the course of my medical education I heard half a dozen lectures each upon nervous diseases and insanity, including one lecture on neurasthenia, the first ever delivered upon that subject in this country. There was also a lecture upon glosso-labio-laryngeal paralysis, perhaps the most hopeless and depressing of all nervous affections. I saw my first case of this disease, which I recognized from this lecture, at St. Joseph's Hospital shortly after coming here. The lectures upon insanity were of a literary rather than a practical type, and more was said about Hamlet and Macbeth than about types and treatment of insane patients. In the old St. Paul Medical College of those days, then located over a saloon on Third street, any man could, and did undertake the work of any other man when need arose. Dr. Stone was Dean of the College and man-of-all-work indeed, lecturing, as he once said, upon every subject save Chemistry, of which he knew absolutely nothing. Dr. Parks Ritchie reported Wheaton as saying of Stone, that the less he knew of any subject, the more brilliantly he could talk upon it.

Almost immediately after I came here, Dr. Stone asked me to finish the course of lectures on *Materia Medica*, because of the serious illness of the professor, Dr. Davenport. I fear

these lectures of mine were not a great success, because I recall very clearly that Dr. Archibald MacLaren and Dr. Edward Spencer, then students, came to one of them and never appeared again. Once was enough! However, the faculty later decided to add a Department of Neurology and Psychiatry to its curriculum. The Professor of Physiology, Dr. Talbot Jones, at first thought of taking this department, but finally decided against it, and the chair was offered to me. Thus casually, almost incidentally, I heard the call of my real vocation and *began to be* a neurologist.

The St. Paul Medical College, however, ceased to exist under that name before the time for my first course of lectures in Neurology. In the summer of 1881 it combined with an additional group of physicians from both cities and was merged into the Minnesota College Hospital, located in the old Winslow Hotel in East Minneapolis, with Dr. Dunsmoor as Dean. This association continued for four years. In 1885 the hospital was abandoned as part of the integral plan of this school which became the Minnesota Hospital College and moved its location to the heart of Minneapolis. The St. Paul members of the staff retired and re-organized the St. Paul Medical School. At one of its Commencements soon after, the address was given by Dr. W. W. Mayo. I knew nothing then of this famous father of more famous sons, but I well recall the instant impression of power and kindness his personality made upon me.

The Minneapolis College of Physicians was organized in 1883, the Minnesota Homeopathic Medical College in 1886. In the meantime, in 1883, there had been created at the University, the beginning of a Medical Department in the shape of a non-teaching, purely examining body whose function was to safeguard the public by raising the standard of the practicing physician. This important step was followed in 1887 by the Medical Practice Act, creating an independent State Board of Medical Examiners. I do not need to tell you that the state owes this immensely important advance in medical legislation to the late Dr. Perry H. Millard, nor that it was practically the first act of its kind in the United States, and the model since for all legislation upon this subject. There followed a petition to the Regents to establish a first-class

teaching Department of Medicine in the University. Shortly afterward, the faculties of the Minnesota Hospital College and the St. Paul Medical College appeared before the Board to support this petition. In the interest of medical education in the state, they offered to surrender their charters. The members of the faculties offered to donate their services as teachers until the state should feel able to provide salaries, and the Colleges offered the free use of their buildings until the state should provide buildings upon the campus. By these unprecedented acts of generosity the College of Medicine in the University was made possible and medical education in Minnesota became a function of the state.

That is all right. We are all proud of the Medical Department of the University. It is highly creditable to the great state of Minnesota, *but*, ladies and gentlemen, the state of Minnesota did not create that college. Stone, Dunsmoor, Millard*,--they did the work.

I tell you, the story of medical education in Minnesota, *like any other story worth listening to* (and I hope you younger men especially will note this) is a story of individual effort and personal initiative. Ultimately, the state profits. But the state leads no forlorn hopes, takes no desperate chances, makes no gallant ventures. These things are done by the plain citizen for the love of a cause he adopts. All that honor and his ideals demand of the private citizen, expediency denies to the state.

The state is even, I regret to say, mighty cheerful about accepting individual sacrifices. It used Dr. Dunsmoor's building five years without rent or thanks. It accepted the service of many of us who taught for it, some like myself, for twenty-five years, without recompense,—save that for two years of that time an allowance of \$50 per annum was made for car fare. It not only asked our time, enthusiasm and services, but if any equipment was needed in my department, I paid for it myself, or went without. If you will pardon me for mentioning it, I recall "blowing in" more than a thousand dollars in one year that way, and my confreres

*Dr. Millard's anxiety for the success of the Medical School during its earlier years was very great. It was a custom of his to quietly slip in during a lecture, in order to size up the presentation of a subject, both as to the responsiveness of the students and the ability of the lecturer—the possible embarrassment of the latter he did not take into consideration.

were all similarly open-handed. Don't misunderstand this. We enjoyed doing it. It was a free-will offering, and we had the time of our young lives working up our respective departments. *But* when I hear this modern talk the young are fond of, in which the state is spelled with a capital and made out a benevolent entity—I smile. Don't tell me it is the state that starts the big things. Men who have lived know better. The state rides home on the last load of hay.

The Minnesota Academy of Medicine originated in a fortuitous meeting, on the train, of Dr. Fulton, Dr. Hunter and myself. We were talking over medical matters in Minnesota, and Dr. Fulton suggested a medical organization composed of men of both cities, having for its purpose the stimulation of the scientific spirit. The suggestion was immediately carried out and the Academy organized.

The history of our medical journals in the last forty years has been one of steady, comparatively uneventful growth, from modest but creditable beginnings to the praiseworthy periodicals of today. Dr. Stone, always a pioneer, founded a small journal in the seventies. It was succeeded by the Northwestern Lancet, edited by Dr. Jay Owens. This was ultimately taken to Minneapolis where it became the Journal-Lancet, now edited by Dr. Jones. After this the Ramsey County Medical Society published the St. Paul Medical Journal, edited by Dr. Burnside Foster. When the State Medical Society finally decided to publish "Minnesota Medicine" the St. Paul Journal ceased publication.

The development of hospitals among us has been a more strenuous because a more vital matter. The city of St. Paul, the only one with whose hospitals I have been intimately acquainted, was indeed inadequately equipped even for its size in 1881. In name, there were three hospitals then, but you might say one of them was a hope, one a promise and only one an achievement at that time. Minneapolis had two, one of which at least, St. Barnabas, had no operating room, as Dr. Dunsmoor and his associates later equipped one for it on condition of being allowed to use it for teaching purposes.

What a contrast did all these hospitals furnish to the standardized hospital of today, with

its well equipped laboratories, its staff with the monthly discussions of unimproved and obscure cases, its accurate case histories, its cross-index system, its stated inspection, its verification when possible of the carefully worked-out diagnosis by pathological findings—'tis a long cry to the days of forty years ago!

I recall that Dr. Wheaton took Dr. C. T. Clarke, afterward of Stillwater, but then looking for a location, and myself, out to see the City Hospital of which he had medical oversight. It was a very meagre affair, housed in a small building, the former residence of Dr. Stewart, on its present site. It would have taken a more prophetic eye than mine to see in it the germ of the large and thoroughly equipped institution of today. I was youthful and willing to be impressed, but the impression that remained with me was of Dr. Wheaton's courtesy in showing two young strangers what he had there.

The embryo St. Luke's impressed me more deeply because it was obviously the dream of hope, of the Superintendent, Mrs. Bradbury one of the most unselfish and sterling women the Northwest has known. It was housed in a small, square, old-fashioned, flat-roofed house on 8th street. Mrs. Bradbury had a Mr. Tanner, a druggist and factotum, to assist her. Otherwise, she was the entire institution, in one person. As *Pinafore* then had it:

"The bos'un tight and the midship mite,
And the crew of the Captain's gig."

She was the superintendent and the matron and the corps of nurses and the dietitian. She was an altruist and an autocrat, as was necessary in an enterprise carried on so entirely under her own cap. The hospital gave excellent care—it could not be otherwise when Mrs. Bradbury did practically all the nursing. No eight hour shifts, no confusion, no neglect, no disregard of orders there! She never spared herself at a patient's expense. I wish I could say as much for all who follow the nursing profession today. I have never forgotten one case I saw there soon after coming to the city. It was general peritonitis. The patient was a girl from "under the bluff" as the red light district was called in those days. It was a pitiful thing—the poor girl talked in her delirium of her family, her home, her former life on the old farm. Mrs. Bradbury

gave her the most unstinting devotion until she died. However life may have treated her, a strong soul companioned her tenderly through the Valley of Shadow.

The original St. Joseph's Hospital was the only real hospital in St. Paul at that time. While small compared to its present superb equipment, it was a going concern. Then, as now, they were efficient. Their present fineness of equipment and readiness for service is due to the wonderful personality and great executive ability of the Reverend Mother Bernardine, than whom I have never seen a more competent hospital official. In those days of small beginnings she showed, as always, the same consideration of the young doctor without following as of the established practitioner, and had, as always, the same kindly thoughtfulness for each individual patient. One of my early cases there was a Canadian with progressive bulbar paralysis, the first case of it I had seen. His condition was tragic, as always in this disease. He could not talk and had great trouble in swallowing, thus making him a difficult patient indeed. I shall never forget Mother Bernardine's thoughtful kindness to him until his death.

A little incident that amused us at this time was a contest between two patients as to which should recover most rapidly. Homeopathy was very popular in those days and there was also much typhoid. Side by side, in the same ward, the late Dr. Henry Hutchinson and I had a typhoid patient apiece. My patient was getting on better than the other man, and he ragged him, boasting of the superiority of the allopathic treatment as shown in his person. Suddenly he grew much worse (I learned later his relatives had brought him grapes and doughnuts to eat) while Dr. Hutchinson's patient shot ahead and made a good recovery to the great glory of the homeopathic school and the disgust of my allopathic patient who had laughed too soon.

Among the good works undreamed of when I came here is the care of crippled children. The establishment of this work is due to the untiring effort of the late Dr. Arthur J. Gillette, who succeeded in getting a Bill through the Legislature providing \$5,000 per annum for the care and maintenance of crippled children whom he offered to treat, himself, free of charge. From this beginning has grown the State Hos-

pital for Deformed and Crippled Children, of whose admirable work I do not need to tell you. Dr. Gillette made Orthopedics in this state, popularized it and made it possible for a tide of beneficent healing to flow to the crippled children of Minnesota. All through the years he was a *perpetual beatitude* to those "whose legs were crooked and whose backs were bad." His was a rugged, virile character, strong yet gentle and kindly—a master builder in medicine.

In 1881 there was no such thing as a trained nurse in the state of Minnesota. I am informed that St. Paul possessed one five years later and that patients vied with one another for her services. Now there are 3500 registered nurses, besides those not so enrolled. Thus the last forty years has witnessed the rise, the fine and full development, and I sometimes fear, the beginning of the decay of this profession,—for nursing is not a *trade*. Among all possible human occupations, it is second only in nobility and helpfulness to that in which we have the honor to serve. Its very hardships make it so. For, as the author of "*Holy Living and Dying*" once asked:

"What is there that makes anything worth while save the labor and the danger, the pain and the difficulty?"

Nurses used to recognize this when they chose their calling. They *knew* they were not selecting a soft snap, an easy job, and they rejoiced in that knowledge. Only those who were willing to give more than was demanded became nurses. This spirit of service made them what they were for thirty years. I owe a debt I can hardly compute to the faithful co-operation of those who have nursed for me through many years. They were, and are, splendid exponents of their profession, examples to the young women now coming on the scene. Nursing no less than medicine demands self-sacrifice as well as character and poise. I wish I were mistaken in thinking that the last five years have changed the spirit of the guild. The nurse should be safeguarded and considered, but as matters are shaping themselves, it is only the very wealthy who can now afford nurses and even they do not receive such service as a nurse once thought it due to her self-respect to give. I do not like to think that any large majority of the younger nurses are only thinking of how much they can

make and how easy a time they can have. But what else are we to believe, facing evidence with which we all come in contact. Said a nurse of the old school recently, deplored these tendencies: "I think the time has come to think a *little* about the patient."

A hospital superintendent was recently unable to get a single nurse out of a cityful to go to a dying person at 10 o'clock at night—merely because it *was* 10 o'clock. Is this the spirit of service? Is this showing responsibility to the social order? We all know what we think of commercialism in a doctor. Commercialism in a nurse is as deadly a disease as typhus in a patient. Ultimately, if unchecked, it will cripple or destroy the profession.

Nursing began with the nuns, that is, with the *consecrated, unpaid* persons who served for humanity's sake. It would be strange if it were driven back to them. Of one thing I am sure, somehow, there will be a solution of our present, pressing problems. For if the spirit of service has so far gone out of womankind that the sick are to be left untended, then indeed the end of the world is near.

I come now to that particular phase of medical evolution in Minnesota with which I am most familiar—namely, the care and treatment of the insane. This is something, to use the Virgilian phrase: "All of which I saw and a part of which I was", but largely for this reason I do not wish to talk too much about it. You know how it is when you start a man on his hobby. Yet a cursory view of the evolution of this work should be of interest to any doctor.

Forty years ago the notion still prevailed that neurology and psychiatry were two distinct lines. It was thought that nervous disorders were due to a physical base but that mental disorders of pronounced types were more psychologic. We knew nothing in those days of the influence of the ductless glands or toxic causes and infections, and little of the neuro-degenerative taint. Yet personally I always felt convinced that basically the phenomena of both nervous and mental disorders were due to some defect of the central nervous system, and accordingly I opposed the idea when it was suggested that these Chairs be separated at the time the Medical Department was formed in the University. The years have, I think, justified

this contention, since our present term Neuro-psychiatrist exactly expresses this conception.

The supervision of institutions for the insane in this state from 1877 to 1881 was in charge of a hospital commission consisting of two members of the State Board of Health and the Superintendent of the Hospital. The Lunacy Commission, upon which I had the honor to serve for ten years, was created by the Legislature in 1881. The State Board of Charities and Corrections was created in 1883. The work of the Lunacy Commission was medical and advisory and confined to the insane hospitals, while the Board of Charities and Corrections, covering the entire system of public and charitable institutions, represented the public interest in the personal condition of these wards of the state.

As you of course know, the universal history of state care of the insane during the last forty years is one of slowly increasing humanity, lessening of restraint, approximation of normal living conditions, study of pathological data and psychological investigation.

I am glad to say that humanity in our state institutions has always been abreast of the times. Indeed, Dr. Tomlinson, at St. Peter, played the part of Pinel and Esquirol in Minnesota. He did away with restraint at a time when it required initiative and courage to make that attempt. The heads of our State Hospitals have always been upright men, overworked and underpaid. There has never been a scandal in connection with the management of our hospitals. Always the Lunacy Commission was received with the greatest courtesy and given every possible opportunity to arrive at the real status of the patients.

In connection with their work, I should speak of that of Dr. Arthur Rogers at the School for the Feeble-minded at Faribault. This was established in 1882 and Dr. Rogers went there in 1885. He was a very unassuming, quiet gentleman, who did a wonderful work, building up the institution under his care from a small beginning into one nationally recognized for its admirable success in its difficult field. When such men as he work with and for the state, we get results.

There were certain lacks in our system for the insane easily visible to the discerning eye. For these things my confreres and I have fought

together through the years with some measure of success. The chief reforms we urged were voluntary commitment, detention hospitals, an asylum for the criminal insane, an asylum for acute cases located between the Twin Cities, with all modern laboratory facilities, and last, and highly important, a psychopathic hospital.

Looking back through the record of my published activities for many years, I find myself advocating these improvements at many times and in many places, though I was never one to instruct legislators and persuade them to feed out of my hand. I have often wished I had that gift for the sake of Minnesota's insane.

Our Voluntary Commitment law was enacted in 1907. I notice that I first advocated it publicly before the North Dakota Medical Society in 1893—fourteen years earlier. So it will be seen that patience is needed in these affairs. They seldom come because one man pushes a button, but only after continued and multiplied pushing of buttons has drawn the attention of the public and created some kind of public sentiment.

An act creating places of detention in cities over 50,000 was passed in 1901, and Detention Hospitals as State Institutions for the Insane were established by an act of 1907.

The Asylum for the Dangerous Insane was also established in 1907. The asylum for acute cases was never secured. A bill before the last Legislature to establish a Psychopathic Hospital under the wing of the University unfortunately failed in Committee. Twenty-five years ago when I was in Edinburgh, taking special work under Sir Thomas Clouston, I met Ford Robertson, who had just left Clouston to become pathologist to the Royal Asylums of Scotland, and he infected me with his own faith in the role such work was to play in the future. This was long before the establishment of any psychopathic hospital in the United States. Returning home, as Chairman of the Lunacy Commission, I advised as vigorously as might be, the employment of a competent pathologist with headquarters and laboratory facilities at the University, but in touch with all asylums and assisting at their postmortems, who should instruct the asylum medical men as to pathological findings—a center of research activity, as it were. This also did not come to pass. But the

psychopathic hospital (when established) will do the work upon a bigger scale. It will throw all possible light upon the pathological conditions of insanity, its diagnosis and treatment.

On my return from this trip, I brought with me a complete equipment for a private laboratory. This was placed in the present Free Dispensary building in St. Paul then used as the University Dispensary. This was the first private laboratory of neuro-pathology in the state. Among those who had charge of it at different times were Dr. Louis B. Wilson, now of Rochester and Dr. Frank M. Manson of Worthington, while Dr. Walter B. Cannon, now of Harvard, worked there for two months one summer.

I recall two cases whose neuro-pathology was carefully worked out by Dr. Wilson, then just beginning his brilliant career in pathology. One was a patient of Dr. Chas. Lyman Greene, a case of Landry's Paralysis from the City Hospital. The patient had been kept alive for almost a week by artificial respiration. The other case was a patient of my own, suffering from pernicious anemia, with paraplegia. Dr. Wilson made sections throughout the entire cord. I reported the case before the American Neurological Society of that year. This was one of the earliest contributions made in this country to the neuro-pathology of the disease, for at that time very little was known about the combined scleroses associated with this trouble. The first contribution was made by Putnam of Boston in January 1891. Three months later, Dana of New York reported a case. Five years later in June 1896, I reported the case I have just referred to: Dana's second case was reported in 1899.

May I say a word or two about one of my beliefs? You may smile at it if you will, but I believe that the day of neuro-syphilis is far spent. It is too late to cure paresis and tabes when they are established, but there is a time when it is not too late. Forty years ago the spirocheta pallida had not been dreamed of, but Metchnikoff, Schaudinn, Wassermann, Ehrlich, Nonne, Noguchi, Swift and Fordyce have lived and wrought; prevention and prophylaxis until their coming futile is now an ultimate certainty.

According to Solomon, every case of syphilis of the central nervous system points "an accusing finger to some member or members of

the medical profession, who have somewhere, sometime or somehow failed to do their duty by that case."

All the more important new discoveries along this line should be passed on to the general practitioner as speedily and as emphatically as possible. He is the sentinel at the gate, for the work is up to him.

In saying this, I find myself at the door of the future before I am fairly out of the past. Reminiscence and prophecy go hand in hand.

It is not in medicine only that affairs have changed vastly in forty years. All human life shows changed conditions, due on the one hand to scientific progress and on the other hand to industrial development. But because *our work* brings us so vitally close to men and women, it is even more affected than other professions by the big changes.

We are witnessing today the early development of two movements destined to affect medical practice profoundly, one of them perhaps to its glory; the other, I fear to its shame. There can be no doubt, I think, that the so-called "socialization of medicine" will ultimately work the doctor's degradation and possibly the patient's dissolution. You will recall the warnings indicated in Dr. Andrew's excellent report to this body upon this subject last year and Dr. Hoffman's convincing address to you upon "Compulsory Health Insurance and the Medical Profession." The question of good medical attendance for those too poor to pay for it is very far from being solved satisfactorily by any attempts yet made in "state medicine" in England or Germany, the countries which have experimented most freely along those lines. The fact that five minutes is the average time of attention an English doctor can give to any case in his "panel" is sufficiently illuminating as to the way it works out there. This brand of service harms both him who gives and him who takes. Our own confessedly inadequate method of free clinics and free dispensaries has at least the advantage of furnishing expert attention ungrudgingly given, though it does not reach all cases.

Two outstanding facts about medical attention which politicians, legislators, would-be

philanthropists and sometimes even doctors themselves forget, are these:

Medical attention is not a commodity;

Medical attention cannot be wholly standardized.

I wish to underline these statements. Labor, which objects to being called a commodity itself, must ultimately realize that medical attendance, being a much more highly evolved and complex affair, is even less a commodity than itself. Any attempt to treat it so will finally end in disaster. I trust that the working of this obvious law will ultimately take care of the ill-advised experiments in "state medicine", but politicians and agitators being what they are, these experiments should command the watchful scrutiny of the profession.

The other movement to which I would allude is that toward group medicine, and this movement increases rapidly in the profession today. Group medicine is based on the realization that the practice of medicine is an ever increasing complexity and it is an attempt to place at the command of the patient every known scientific aid at the least possible cost. Disease, other than acute infections, is usually a complex, often requiring the consideration of more than one specialist. Also, its diagnosis today demands analytical and laboratory facilities far beyond the ability of the average physician to furnish. These things must either be done outside the office, or the office must be so organized as to include these facilities. We are still in the experimental stage of this movement, and groups associate on various differing principles. The search, of course, is to find the precise principle of association and form of management which will serve the patient most efficiently and economically, with advantage to the physician also. Minnesota possesses a unique example of the clinic idea—few, if any experiments in "group medicine" are ever likely to achieve the startling success of that one. There is one Rochester, two Mayos and the town is a world Mecca, but the conditions that have shaped the Mayo Clinic are too exceptional ever to be repeated. The ordinary clinic must be content with less spectacular success. Nevertheless, I have faith that the profession will work this problem out successfully. In five years time, or ten, we shall

know how best to make group-medicine of service. And only as it serves will it succeed.

I think I see, however, from the vantage ground of forty years of medical practice, two dangers which menace the efficiency of group-medicine, and I would like to call your attention to them. One is the danger of too much stress on diagnosis to the neglect of therapy. What a patient really judges us by in the long run, you know, is whether we help him to feel better without costing him too much. The care we give, to finding out what really ails him, goes over his head. It is all vanity and vexation of body unless he improves. In this connection I wonder how many of you noticed a little anecdote Dr. Frederick Peterson introduced in an article printed in the A. M. A. last year. Says Peterson: "I met a patient who had most of the diagnostic tests tried on him and he said the experience was most impressive. I asked what the doctor had done for him as a result of these labors. He said, 'he gave me rhubarb and soda, and when I told him that was just what my doctor in Skaneateles had given me long ago, he said, it was not rationalized, not scientific. Then I said, rationalized rhubarb was having a wonderful cathartic effect on my pocketbook.' "

The other danger of group-medicine—and on this I would lay even more emphasis—is that of the elimination of the doctor's personality, of his unique and vital relation to his patient. You do not need to be told that it is somewhat the tendency of group-medicine to obscure and overlay these things, but perhaps the younger men among you do not fully realize the part they play even in therapy.

I have just told you of my memories of the Minnesota doctors of forty years ago. Their *personality* was the biggest of their gifts to their clientele. Big-hearted, big-brained men inspire in their patients the *will to live* and this is fundamental therapy. Think of the miracles the country doctor of our early days performed. I came near trying to be one, though perhaps I might not have pulled off the miracles. Had it not been for Dr. Stone's advice, I might have settled in the village of Brunersberg, Ohio, a hamlet of less than fifty souls. My elder brother, if you will allow me the reference, was

a small town and country doctor to his death. He used to drive about the drifted roads in winter when it was so cold his breath congealed on his eyelids and froze them shut, and the old white horse made the needed stops of her own accord. I know and honor such work as he and others like him did among those people and in those conditions. We cannot claim to excel them in human usefulness. With all our scientific progress and standardized procedure, we have not passed—and shall not pass—beyond the need for the *qualities* those men so fully possessed.

Routine procedure can be standardized, but standardization and science will only take a doctor half way to his goal. *Medical judgment* remains forever individual—and *medical judgment and personality* are the crux of the whole matter. If a man has all else, and has not these, it is as nothing.

I am not saying that insight and personality are better than scientific procedure, but I *am* saying that the latter is lifeless without them. We must have both and have them in full measure.

When I left college forty-four years ago, my graduating essay was about "The Physician of the Future." Heaven knows what I thought or said about him. But I know today what I think of the physicians of that future which ever recedes as we advance—that something brave and gallant, faithful and inspiring, which I felt so strongly in our Minnesota men of forty years ago, that *must be* a vital part of them. There is no doubt that modern conditions, and even our priceless scientific progress, tend to obscure the age-long ideals of our profession. We must fight to keep them, tooth and nail. For—I do not believe—I *know*, that only as we hold intact our great traditions, shall we duly serve our public and save our souls alive. Now, as never before on earth, must men who are trusted by other men as we are, keep faith with our own past. From commercialization, socialization and selfishness, Good Lord deliver us!

Note: I am greatly indebted to Dr. Richard O. Beard, Dr. Frederick J. Dunswoor and the State Board of Control for valuable data.

THE TREATMENT OF POLIOMYELITIS WITH IMMUNE HORSE SERUM BY VARIOUS PHYSICIANS*

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After the apparent value of my immune horse serum had been demonstrated at Davenport, Iowa, in 1917¹, it and subsequently prepared serums were sent to various physicians on request, with the understanding that the results they obtained should be reported to me. I shall summarize here briefly the symptoms, findings, and results recorded in these reports.

A card for each patient treated and a circular letter were sent with each batch of serum. The chief items of information asked for on the card were the sex and age of the patient, the condition of the teeth, tonsils, cervical glands, and adenoids, a description of poliomyelitic symptoms and the date of onset, the extent of muscular weakness and paralysis, and the date of their onset, the spinal fluid findings (amount withdrawn, cell count, and globulin test), the method of serum injection, the date on which the serum was injected and the amount given, the effect, if any, on the temperature, pulse rate, and other symptoms, the immediate and late results with regard to the arrest of progressive paralysis, restoration of muscle function, exposure to other patients, whether or not more than one member of a family was affected, and whether there were other cases in the community. Reports on the use of the serum in 128 cases have been received and analyzed. Considering all the facts there was no reason to doubt the diagnosis in any of these. Most of the cases occurred in various parts of the United States, chiefly during the summers of 1918 and 1919; treatment was given in a smaller number of cases in 1917 and in 1920. Sufficient time had elapsed at the time the reports were made so that the ultimate outcome in all the cases could be determined. Most of the cases occurred in July, August, and September of each year.

A history of exposure to patients known to

have poliomyelitis was obtained in eleven cases. More than one member of a family was affected in ten cases. Other cases were noted in the community in forty-five of eighty-six cases in which information was reported on this point, while forty-one cases occurred sporadically.

Abnormal conditions around the teeth were reported in nine cases, infected and enlarged tonsils in thirty-seven, the presence of abnormal accumulation of adenoid tissue in twenty-two, and enlarged cervical glands in twenty-four. The tonsils had been removed in seven cases, and the adenoids in six.

The serum was usually injected intravenously or intramuscularly, but occasionally both methods were used in the same patient. Thus, in eighty-eight cases in which the method of injection was reported, thirty-five patients were injected intravenously, thirty-eight intramuscularly, twelve intravenously and intramuscularly, and three intraspinally and intramuscularly. Altogether 117 intravenous injections, and 103 intramuscular injections were given. Immediately before the injection of the first dose of serum spinal puncture was made for diagnostic tests and to aid in draining antibodies contained in the serum into the spinal canal. The serum used included some of each batch which I used in the treatment of cases in the epidemics at Davenport and Dubuque, Iowa, and in sporadic cases. The table contains a summary of the important facts in each of the three groups.

Group 1. None of the twenty-three patients in this group died, and only one developed slight paralysis, which localized in the right deltoid, and later disappeared completely. Early good effects, such as diminution in temperature and pulse rate, lessening of the rigidity of the neck and spine, twitchings of the muscles, and abnormal drowsiness, were noted in twenty-two patients. The duration of the disease at the time of treatment was from twelve hours to four days; the average was one and five-tenths days. The cell count in the twelve cases in which it was recorded ranged from 10 to 240; the average was 105. The ages of the patients ranged from two years to sixteen years; the average was five years. The average total amount of serum given was 22 c. c.

Group 2. None of the twenty-seven patients

*Presented before the Southern Minnesota Medical Association, Winona, June, 1921.

in this group died, and all but one recovered without residual paralysis. This patient had had paralysis in the extensors of the right foot, and complete paralysis of the entire right leg for two days when the serum was first given on the fourth day of illness. The cell count was 42, and only 12 c. c. of serum were injected intravenously. Early good effects of the serum were noted in twenty-five cases, while in two, in which the serum was given on the third and fifth days, it appeared to have no effect. The average duration of the disease at the time of serum treatment was two and five-tenths days. The cell count in the seventeen cases in which it was reported ranged from 16 to 175; the average was 69. The ages of the patients ranged from one year and three months to twenty-two years; the average was six and seven-tenths years. The average total amount of serum given was 28 c. c.

Group 3. Six of the seventy-eight patients in this group died; nineteen recovered with residual paralysis, and forty-one recovered completely. The late results concerning twelve are not known. Early good effects of the serum were noted in forty-four patients; doubtful or no apparent effects were noted in nineteen. In all but two of the latter the serum was given in from four to fourteen days after the onset of the symptoms. The average duration of symptoms at the time of treatment in this group was six and three-tenths days. The cell count in the thirty-nine cases in which it was recorded ranged from 10 to 700; the average was 113. The ages of the patients ranged from nine months to forty-five years; the average was eight and four-tenths years. The average total amount of serum injected was 37 c. c.

The first serum injection in the patients who died was made on the third day in one, the fourth day in three, and the sixth day and ninth day in one each. The ages were respectively four, seven, eleven, fourteen, fifteen, and twenty-seven years. The amount of serum given was 5 c. c., 10 c. c., 30 c. c., 40 c. c., 40 c. c., and 130 c. c. respectively. Respiratory involvement was already present at the time of the first injection in four, complete paralysis of all extremities, with inability to swallow, in one, and almost complete paralysis of all extremities in one. The

patient who received only 5 c. c. of serum was practically moribound on the fourth day of illness from an ascending paralysis, and no beneficial effects were noted. In the three others in whom paralysis had extended to the respiratory muscles, on the third day in one, and on the fourth day in two, improvement, such as relief from pain, lowering of temperature, and improvement in respiration, occurred soon after each injection; the slight extension in the medulla caused death in from twenty-four to thirty-six hours after the last serum injection. The patient who was completely paralyzed and unable to swallow improved in ability to swallow after each of two serum injections, given on the sixth and seventh days respectively. No apparent effect was noted in the patient with ascending paralysis; the serum was given on the ninth day of the disease.

In the analysis of the cases in this group according to complete recovery, or recovery with residual paralysis, it was found that the age of the patient, the cell count, and the amount of serum given were about the same in all. The average age in the former was seven and two-tenths years, in the latter eight and three-tenths years; the average cell counts were 89 and 76 respectively, and the average total amounts of serum given were 37 c. c. and 34 c. c. respectively. There was no apparent difference in the severity of the early symptoms and other findings. The only striking difference was in the time of the treatment. The average time of treatment of patients who recovered completely was four and six-tenths days after the onset of the symptoms, while of those in whom paralysis remained it was ten days.

SUMMARY OF RESULTS

Six of the 128 patients treated died, a mortality of 4.7 per cent. The serum treatment was given to all of these after extensive paralysis had developed. Twenty have residual paralysis. In twelve the late results are not known, but, granting that they all have residual paralysis, the total would be 32 (25 per cent). In all but one of these the paralysis was marked at the time of treatment. In the judgment of the physicians giving the serum, early good effects were obtained in ninety-one cases; no apparent effects were recorded in twenty-two cases. The

average duration of the disease at the time of the serum treatment in the 128 cases was four and six-tenths days; the average cell count was 102. The average age of the patients was seven and four-tenths years. The average amount of serum given was 32 c. c. Of 123 patients whose sex was recorded, sixty-six were males, and fifty-seven were females.

The amount of spinal fluid withdrawn from any one patient varied from 2 c. c. to 60 c. c., depending on the pressure and the age of the patient. The average amount withdrawn from the patients in Group 1 was 9 c. c., in Group 2, 18 c. c., and in Group 3, 17 c. c. The average in the three groups was 12.8 c. c. In all but four patients the globulin test was positive when the cell count was increased. In these the spinal puncture was made on the first, second, fifth, and ninth days, and the cell counts were 60, 51, 15, and 11 respectively.

The intervals between the time of the onset of symptoms and the onset of paralysis in the patients in Groups 2 and 3, in whom paralysis had occurred before the serum treatment was begun, were approximately the same. Of the patients in Group 2, those with slight paralysis, muscular weakness began on the second day in 25 per cent, on the third day in 36 per cent, on the fourth day in 25 per cent, and in the others on the seventh and eighth days. Of the patients in Group 3, those with advanced paralysis, 6 per cent developed muscular weakness on the first day, 18 per cent on the second, 30 per cent on the third, 20 per cent on the fourth, and the others, one each on the fifth, sixth, seventh, eighth, and ninth days. The duration of the symptoms until the onset of paralysis in the six patients who died was one, two, four, five, six, and seven days respectively. The early symptoms, such as headache, vomiting, twitchings, and rigidity of the neck and spine, were equally severe in the three groups, and the temperature and pulse rate were about equally high.

When the serum treatment was given during the febrile period the temperature usually dropped gradually from the day of the first injection, and it became normal in from two to three days. In some instances there was no apparent effect on the temperature curve. The pulse rate lowered coincidentally with the tem-

perature, and usually was not affected when the temperature was not diminished.

A rise in temperature soon after the injection of serum occurred in six cases in a total of 231 injections. This was usually interpreted as evidence of toxicity of the serum, but since it occurred only in patients who had fever at the time of the treatment the rise may have been due to some other cause. Acute anaphylactic reaction was not reported. One child was delirious for a few hours and one had a convulsion; both recovered without residual paralysis. Twelve patients (about 10 per cent) developed urticaria or serum sickness as a sequel.

In every instance in which physicians had an opportunity to treat patients early and late in the progress of the disease, recovery, both of symptoms and muscular power, was more prompt and more nearly complete when the serum was given early in the attack than when it was given late. This fact was forcibly emphasized in the instance in which two children of about the same age, in the same community, contracted poliomyelitis at about the same time. The child with a low cell count (31), in whom the serum treatment was begun on the sixth day, when respiratory embarrassment was already present, died. The other child, whose early symptoms were almost identical and who had a higher cell count (170), received the serum treatment on the second day, just as muscular weakness was developing, and recovered without residual paralysis.

The outcome, both with regard to death and restoration of muscle function, in the patients treated is far better than that noted in the patients not treated. Of a total of seventy-two patients not treated whose cases have been studied, nineteen (25 per cent) died of respiratory paralysis. This does not include eleven patients treated whose cases were hopeless. If these are added, the mortality is 36 per cent. The final outcome of twenty-five of the patients untreated was determined. Of these fourteen (56 per cent) had varying degrees of paralysis.

The incidence of residual paralysis in the patients treated is much less than was the average of paralyzed patients in a large number of epidemics summarized by Wickman¹. Thus, in

TABLE I

Summary of results in patients treated by physicians to whom serum was sent on request.

Condition of patient	Patients	Deaths	Recovery with residual paralysis	Complete recovery	Recovery without developing paralysis	Early good effects.	Late results unknown	Effects doubtful or not apparent	Average cell count	Average duration of disease at the time of first serum treatment	Average age	Average amount of serum given to each patient
Group 1 Patients without paralysis at the time of serum treatment	23	0	0	23	22	22	0	1	105	1.5	5	22
Group 2 Patients with slight paralysis at the time of serum treatment	27	0	1	26	0	25	0	2	69	2.5	6.7	28
Group 3 Patients with advanced paralysis at the time of serum treatment	78	6	19	41	0	44	12	19	113	6.3	8.4	37
Total	128	6	20	90	22	91	12	22	102	4.6	7.4	32

Wickman's compilation of 1405 cases, residual paralysis occurred in 970 (68 per cent). Moreover, it is far below the incidence of residual paralysis reported for the 1916 epidemic in New York City¹; 67.4 per cent of 2715 patients studied at random were found to have residual paralysis.

It should be stated that nearly all physicians who had opportunity to observe the effects of the immune horse serum became convinced that it possesses definite and often striking power to prevent paralysis, and that it is of definite benefit if given within thirty-six to forty-eight hours after the onset of paralysis, but if given after that it is of less value.

The results in this series of cases corroborate in detail those which I obtained in the epidemics at Davenport² and Dubuque³, Iowa, and in sporadic cases since that time in which the primary data were obtained first hand.

The conclusion that my immune horse serum has curative power in poliomyelitis, especially in the early stage of the disease, is warranted, and its general use in the treatment of this dread disease is indicated.

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DISCUSSION

DR. S. MARX WHITE, Minneapolis: I doubt whether any of us feel competent to discuss the paper of Dr. Rosenow with any great degree of intelligence. I have not had the opportunity of attempting to use the serum as he has indicated, but I have had the opportunity to see a good deal of his material and to study it, and the thing that appeals to me is the remarkable persistence with which Dr. Rosenow has followed out the lesions of this disease. The one point of considerable difficulty which has developed in repeating Dr. Rosenow's work seems to

be the inability of other workers or unwillingness to repeat exactly his methods, and if my understanding of the situation is correct, the repetition of his results depends upon the most meticulous following of the methods of cultivation and isolation that Dr. Rosenow has been responsible for the development of. The idea which underlies all of this work, the selective activity, the development of bacteria is one which he has been so largely responsible for and which so many other workers find difficulty in accepting or following. I am confident, however, from the care with which Dr. Rosenow has conducted all this work, from the hundreds of checks he has made, when the time comes that others are willing to follow out his methods, his results in very large part will be duplicated.

I am interested in what he said with relation to placing the serum in places where it will be accessible, and as a member of the State Board of Health I am glad to have the suggestion that it is possible to place some of the material in the hands of the laboratories of the Board, so that it will be readily accessible, because the laboratories are making every attempt to have sera in stock and ready for immediate and prompt shipment. In that connection I would like to ask Dr. Rosenow as to the period during which this serum will be potent. Most sera for a certain time retain their potency in a usable degree, but after a certain length of time they are no longer safe or useful, and if Dr. Rosenow has any knowledge as to the length of time the serum would be useful after its manufacture, I should like to have him tell us about it.

DR. EDWARD C. ROSENOW, Rochester: I have had apparently good effects two years after the serum was made. Its efficacy is comparable to anti-pneumococcus serum, more so than antistreptococcal serum. If kept cold, it lasts for a long time, so that it is not impossible to stock it in various places and have it immediately available for the treatment of patients.

DR. D. B. PRITCHARD, Winona: While I have had considerable clinical experience with cases of poliomyelitis, I am not competent to discuss Dr. Rosenow's paper. There is one phase I am curious to get some light on. It seems to me, the results we get from the serum may or may not be true, judging by the statistics we saw given on the screen.

About six years ago in 1916 we had here in Winona quite an extensive epidemic of poliomyelitis. This epidemic was probably as extensive as it was anywhere in the country in proportion to the population. As I remember, we had in the neighborhood of 75 frank paralyzed cases of poliomyelitis. We had at the same time a most unusual number of young people who were ill with symptoms of poliomyelitis without paralysis. I think every practitioner of Winona in this audience will verify what I am about to say, that for every frank case, we had in the neighbor-

hood of 10 cases of poliomyelitis which we could not swear were poliomyelitis, but were satisfied that they were cases of that disease. These cases occurred in the families without frank cases. Some of them would have all the symptoms except frank paralysis. We had poliomyelitis cases at all ages, from early childhood up to middle life or older. We had in the neighborhood of a thousand cases of poliomyelitis that summer, and if we had used the serum it would have been considered very valuable. We saw case after case that we believed was poliomyelitis with absolutely no paralysis following. The thing I am in doubt about is the result of these statistics we saw on the screen of something like 117 cases. While I do not want to say this serum is of no value, I know some of the sera are valuable, particularly pneumococcus antigen. There is nothing on earth, except diphtheria antitoxin, that is more valuable than Rosenow's pneumococcus antigen given early. With that in mind I have the greatest respect for Dr. Rosenow's methods and his discoveries, and I would not say that this serum is not all right. In Winona we had another epidemic some years ago which was not so extensive; at the same time we had a lot of other cases ill, and no one was able to make a diagnosis in those cases. Had we been using serum in the 1916 epidemic we would have been justified in believing it a wonderful remedy, curing at least 90 per cent of the cases in a few days.

DR. W. E. BROWNING, Caledonia: I have listened with much interest to this splendid talk of Dr. Rosenow's on this very important subject. It is one that appeals to us as country physicians, and I want to put on record six of these cases we have had in the last year, four of which were treated with serum. For instance, one case was a little child who very early developed paralysis of the respiratory muscles. The next two cases were rather severe to use the serum on. They lived, and we noticed at the time almost immediate improvement after using the serum, but they are maimed. Their forearms are all right. In two other milder cases we used the serum, and one cleaned up with only a little squint at the time, and that has cleared up since. The other child had definite paralysis on the right side of both arm and leg, and that has practically cleared up. Another case was one with the lesion only affecting the pharynx and larynx, and that cleared up entirely with the use of the serum. This proves to my mind the usefulness of the serum. I think so much of the serum that if I had another case I would use the serum as soon as I could get it, because there is no doubt we get benefit from it. It has got to be used early, and the earlier it is used the better the results will be.

DR. H. F. HELMHOLZ, Rochester: I would like to add a word of appreciation of Dr. Rosenow's very excellent work. As clinicians we must consider that only if we make a diagnosis early in poliomyelitis

will we be able to benefit our patients. As Dr. Rosenow has pointed out, all pathologic-anatomic work on this subject has shown that once damage is done, no amount of serum or anything else can restore the anterior horn cells. It is only in those cases in which the cells are not yet destroyed that we can hope to accomplish anything by the use of serum. This means, early diagnosis.

It is a well known fact that poliomyelitis without paralysis occurs during an epidemic. Not only are there patients without paralysis, but persons coming in contact with patients with poliomyelitis became carriers of the disease. It is only in the severe cases that paralysis develops. If a child under my care had the general symptoms of poliomyelitis without paralysis, and the spinal fluid showed the findings associated with this condition, I would not hesitate to give the serum. It is only in the early stage that we can hope to accomplish anything with the serum, which means that during an epidemic we must do lumbar puncture in all suspicious cases in order to make the diagnosis at a time when the serum is of some use.

DR. EDWARD C. ROSENOW, Rochester, (closing): Abortive cases such as those mentioned by Dr. Pritchard are more numerous in some epidemics than others, and make the evaluation of the effects of any form of treatment very difficult. Fortunately the spinal fluid findings differentiate quite clearly, as Dr. Helmholtz has emphasized, these cases from those in which there is involvement of the central nervous system. During the epidemic at Dubuque I made spinal punctures in eleven patients who presented clinical evidence of poliomyelitic infection, but in whom little or no evidence of localization in the central nervous system could be elicited. Most of these were in families in which frank cases of poliomyelitis occurred. The cell count in one was 5, in one 3, in one 2, and in the others no cells were found. The globulin test was negative in all. The punctures were made on from the second to the seventh day after the onset of symptoms in all but three. In one of these it was made twelve hours, in one eighteen hours, and in the third twenty-three hours after the onset on the symptoms. In a few of these cases I have been able to demonstrate the presence of the pleomorphic streptococcus in the throat, just as Flexner and Lewis have demonstrated the presence of virus.

The cases in which the serum treatment was given were not of the abortive type, but were frank cases. The symptoms and spinal fluid findings in cases treated early were as marked as in the cases in which paralysis had occurred. It would appear that the absence of death and the almost total absence of paralysis in the former group, must be due to the serum injected.

OBSERVATIONS ON ANGINA PECTORIS*

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As we approach the twilight of our professional career, no matter how limited our medical horizon, our attention is irresistibly and inevitably drawn to a contemplation of the action both in ourselves and in others of the great central organ of life, the heart. I am led to write this paper by a remark of Sir William Osler that one third of his angina patients were physicians.

The exact mode of causation of an acute angina attack is one of the most disputed points in cardiac pathology. It is not a disease but a symptom complex. The name angina pectoris, literally, anguish of the breast, given by Dr. William Heberden in 1768 and 1782 is quite applicable and his original observations after much research, I have found. "Those who are afflicted with it are seized whilst they are walking and more particularly when they walk soon after eating with a painful and most disagreeable sensation in the breast which seems as if it would take their life away if it were to increase or to continue. In all other respects the patients are at the beginning of this disorder perfectly well and in particular have no shortness of breath from which it is totally different."

Hippocrates refers to painful affections of the breast, while the Roman philosopher Seneca in his 55th letter gives a graphic description of undoubted anginal symptoms in his *Meditatio Mortis*: "To have any other malady is to be sick, to have this is to be dying." Seneca emanated this expression, "Man does not die, he kills himself by eating." —True even in this day and generation.

Balfour's description is the most striking, "A mailed hand grasped the chest in the cardiac area and squirted through its fingers flashes of exerutiating agony." The painter Durer, himself a sufferer, depicted the disease in a picture. "Der Tod als Freund."

John Hunter, Charles Sumner, Charles Dickens, Charchot, Matthew Arnold, the evangelist Moody, Nothnagel, William Pepper were distinguished sufferers.

*Presented before the Minnesota State Medical Association, Minneapolis, October, 1919.

It is essentially a disease of middle life or later, though some cases have been reported in the young. Albutt quotes a rheumatic case at seven and others at ten years. Wild relates cases in a girl of ten and another at twelve years in whom were found advanced diseases of the coronary arteries. Heberden stated, "I have seen nearly a hundred people under this disorder of which number there have been three women and one boy twelve years old. All the rest were men near or past fifty years." It is a disease of the aorta and coronary arteries and based on definite pathological conditions. The terms, pseudo-angina and functional angina, should be abandoned in any description of the malady. They represent a wide variety of disorders.

Etiology.—There are five great causes, in order of frequency. Syphilis is by far the most active and frequent; it attacks so often the aorta, the seat of angina disease. Rheumatism, arterial sclerosis, gout, and influenza probably are the next most frequent causes.

I once remarked that sexual desires in the most of us have become merely a matter of historical importance. Yet I have seen a genital chancre in a practitioner of sixty acquired in ill spent time when he should have been reading the Bible or Taylor's "Holy Living and Dying." Then, the matter of accidental syphilis is ever present with us. Syphilis is much more common than supposed. It is by far more frequent in the community than tuberculosis. Ten per cent of all hospital cases have the disease and the percentage is rapidly increasing.

Arterial sclerosis comes next in frequency. We are on the crest of a great cardio-vascular wave, says one writer. Our knowledge has greatly advanced in the last twenty years. In the majority of hyperpiesia cases arteroma of the aorta-coronary area eventually becomes established. A defective aorta with high blood pressure is a frequent cause of angina. Take ourselves as physicians, the wear, tear, and strain on our arterial leather is terrific, and no wonder circulatory disease is so common. At forty we often carry the burden applicable to an age of sixty years. Worry is the disease of the age. "He that is of a merry heart hath a continual feast."

Rheumatism, I defined years ago, as a galaxy of diseases not yet differentiated. Now we consider it practically a sepsis, originating usually, in the tonsils or teeth. It is the cause of angina in early life. The wholesale removal of tonsils at present should not be ridiculed, even if an occasional healthy gland is removed. It fulfills the dictum of Adam Smith, the greatest good to the greatest number. I would advocate the removal of all enlarged tonsils in children under state supervision and at state expense.

Influenza occasionally causes an acute aortitis. This I observed several times during the last epidemic;—fullness in the right upper sternal region with substernal pain varying in degree from an uncomfortable condition to agony itself. Several cases of angina following influenza have been reported, with a few sudden deaths.

Gout with the incident arterial changes is frequently in its later stages associated with angina.

Tobacco is usually mentioned as a cause of angina. It may cause an irregular pulse, vertigo with severe cardiac pains, but never a true angina. A man aged 34, a great smoker, developed attacks of angina and died in one attack. Fortunately a necropsy was performed, revealing extensive syphilitic lesions of the aorta, partly closing the openings into the coronary arteries. There is no evidence that tobacco can produce angina but it can aggravate an existing tendency.

All angina cases are worse in cold or stormy weather. Certain meteorological conditions apparently precipitate the attacks. One of my patients, a prominent lumberman, would have distressing seizures during storms with subzero temperature. On my advice he removed to Pasadena and lived over ten years in comfort, dying of some other malady.

Persons with anginal symptoms are rendered worse by association with a marked case. The physicians of Charles Sumner and Charcot, died of this disease. Others in perfect health may assume an imitative form, usually hysterical in character, and, in Christian Science parlance, must change their thought to get well.

Symptoms.—The symptoms of a typical attack exhibit a marked diversity. There is usu-

ally a fixed attitude, slightly bending as if to relieve the feeling of oppression. The sufferer may assume that of a man attempting to throw off an incubus, resembling Laocoön in the celebrated group. Instead we may have a variety of movements such as pacing the floor, or the recumbent position.

The face is usually pale but may be flushed or even cyanotic. The skin may be dry or covered by perspiration. As a rule dyspnea is not present. Sometimes as in the case of John Hunter, they breathe only by an effort of the will. Yet a deep breath often gives relief. "A fearsome, restless fright begins to fill the mansions of my soul," says Gerontius.

There is a sense of impending death. One patient remarked he felt an intense curiosity; to be translated or not was the question. An intense paroxysmal pain usually in the upper sternal regions, may radiate to the left arm, right arm, or both; to the fingers, neck, lower jaw or behind the ears, to the larynx, abdomen, testicles or legs. Rarely the arms become benumbed with loss of power and the fingers feel dead. A sense of suffocation is sometimes manifest, and constriction of the throat.

Epigastric angina is responsible for many sins. Some stomach specialists have industriously rubber-hosed and irrigated such cases with no striking results except an occasional sudden death. Always contemplate gall stones, gastric ulcer, or even appendicitis, embolism, gout, and angina in pit-of-stomach pains and differentiate carefully between them. In coronary thrombosis, the pain is most severe in character with signs of shock and collapse; the pain may continue for hours and the attack is usually fatal.

Angina is not so frequent in women and is often overlooked with the diagnosis of hysteria. A woman in my City Hospital ward had been in various institutions with the invariable designation of major hysteria. During an attack, I observed she clutched her upper sternum and also had irregular pupils. Her sixth Wassermann was positive and she died of a typical angina. A woman may have pronounced hysterical manifestations underlaid by a serious organic disease.

The pulse is, as a rule, unaffected but may

become small, soft and scarcely perceptible. A tightness across the chest on exertion is all that some complain of.

Blood pressure reports are at great variance. One case, normally 150 systolic, was 210 during the paroxysm. In syphilitic cases, there is usually no change.

Flatulence and gastric distension occurs in almost all cases,—a cardinal symptom. The wind and the pain may be discharged together. One paroxysm was precipitated by eating raw onions, probably a just punishment.

Diagnosis.—A typical seizure is readily recognized. The anxious, pale, gray countenance, may be flushed; the shallow breathing, fear of impending death, fixed position, upper sternal pain radiating to the arms, shoulders, neck or back are classical. Waves of pain from the upper abdomen to the sternum, with nausea and great weakness, also acute pulmonary symptoms may be associated. Pain may occur in the pectoral muscles. Intermittent claudication is occasionally observed.

Intercostal neuralgia is frequent in the weak, neurotic, anemic young women exhibiting the tender nerve points of Valleix and other stigmata.

Herpes zoster curiously is sometimes confounded with angina.

Cardiac pain in a young man with a history of syphilis almost invariably means angina.

The pain starting from the epigastrum is prone to mount up behind the sternum. There are three special occasions for angina: muscular exercise, as walking up-hill or against a wind; sudden mental emotion; and impeded digestion. A heavy dinner after severe mental or muscular exercise is dangerous. Some think it is initiated by a sudden strain on the left ventricle.

Josue obtained positive Wassermann tests in 33 per cent of his angina cases but 90 per cent were benefited by mercurial treatment. Arsphenamin does not answer as it may bring on serious disturbances with aortic lesions. Ewart has recently stated the spirocheta pallida may be found in abundance in the cardiac tissues and yet be absent in other parts of the body.

Where rest and nitrates markedly benefit, angina must be considered as probable. Willis

states that there are no electro-cardio-graphic findings pathognomonic of angina pectoris.

Prognosis :—The prognosis is always uncertain, usually grave in character. "Experience is fallacious and judgment difficult." Probably not so unfavorable as formerly considered. Matthew Arnold died in the first seizure, while John Hunter lived twenty years with almost daily paroxysms near the end. Marked disease of the aorta and aortic valves means death in a limited period. Myocardial changes are unfavorable. Angina minor may exist for years or even disappear altogether. Cases are reported existing for thirty or forty years with final cessation of attacks. An elderly lady in this city had marked attacks years ago which have nearly disappeared.

The French have reported sudden deaths in young soldiers from syphilitic aortitis (shown by necropsy) with angina "sine dolore." In no disease is death so instantaneous. The vagus, stung by the anginal pain acting on a diseased structure, acts with appalling swiftness. A poet thus describes the death of his mother from angina:

"One moment here, the next she trod
The viewless mansions of her God."

Treatment :—Says Dr. Latham, "Medicine is a strange mixture of speculation and action; we cultivate a science and exercise an art." Every person with attacks of angina, no matter from what cause, must give up tea, coffee, tobacco, and alcohol. He must avoid violent exercise, excess of diet, and mental emotion. If the blood pressure be excessive, that must have systematic treatment.

In no other malady is gentle intelligent care and nursing more indicated. As one author remarked, often such dangerous remedies are employed and to such excess as to resemble the storming of a mud hut with Armstrong guns.

The study of focal infections has been of great importance in these cases; also a full knowledge of the circulatory conditions.

In some patients a postprandial rest, even moving the person from the dining table in a wheeled chair has averted attacks, while the establishing of a cheerful psychic attitude often gives comfort and relief. Graduated exercises

and Nauheim baths have given me good results in some cases.

Rest in a sanitorium may reduce the size of the aorta by one-fifth of its diameter in high pressure cases. The meals should be spare and frequent. Heavy meals or banquets at night are an abomination for such persons.

The Karell cure is recommended occasionally if the heart is in fairly good condition.

The nitrates are among our most valuable remedies and usually nitro-glycerine is by far the most reliable. It should be a fresh preparation and given in 1/100 grain doses dissolved under the tongue. It is usually given in too small doses and then abandoned as useless. Increase the dose until relief even if headache, dizziness or flushing of the face be marked. Twenty to fifty tablets have been given daily with beneficial results. I direct my patients to get an original package of 100 tablets and renew them every few weeks as the tablets deteriorate rapidly. If the pain is very severe, morphine or morphine with atropine is the sovereign remedy. One-eighth to $\frac{1}{4}$ grain is usually insufficient and a small repeated dose is not so adequate as a large single one. Chloroform is dangerous as we do not know the exact condition of the heart muscles.

Sodium iodide is usually beneficial, probably on account of the frequency of syphilis. Some administer it continuously in all cases.

Mercury in specific aortitis has often a wonderful effect and no better form than the inunction has ever been used.

Dr. McKenzie claims that bromides are of great service where marked nervous symptoms exists.

Atropine protects the heart against inhibition shock and is used in doses of 1/100 grain three times a day.

Theobromine apparently lowers the blood pressure in high tension cases. Strychnine phosphate 1/50 grain three times daily has apparently aided some of my cardiac cases.

Digitalis is contraindicated where the heart is fairly sound. It may be needed for some concurrent cardiac disease. In a defeated heart where the drug does not bring the usual response, it may be dangerous. High frequency

current is said to give temporary benefit in mild angina cases with high pressure.

For the flatulence, nothing can compare with essence of peppermint or better, old whiskey in hot water.—"Though lost to sight to memory dear."

Phlebotomy was of assistance in one of my very plethoric cases.

In conclusion, the Epicurean philosophy holds true with us as with other individuals. We know what we are and we know not what we may be. We want to cling to this wicked old world as long as we can.

"But comes he slow or comes he fast,

It is but death that comes at last."

If these desultory remarks will aid at some future time to the slightest degree in warding off this cruel affliction from one of you or by your instrumentality from one of your patients, these moments will not be consumed in vain.

SURGERY OF THE URETER*

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Surgical procedures for the relief of diseases of the ureter are very common and are carried out very satisfactorily. More progress has been made in this field of surgery than in almost any other in the past decade, largely by the developments in cystoscopy and roentgenology, as well as by a better knowledge of the renal function and the relation of the ureter to the kidney and bladder. Furthermore, very distinct improvements in the technic of the operations have been made.

Normally, the ureter which joins the kidney pelvis and the bladder lies loosely in the fatty tissue in close proximity to the peritoneum and on the anterior surface of the large spinal muscles, although it is more closely associated with the peritoneum. When the peritoneum is reflected from its posterior attachments, the ureter invariably is carried with it. Attention to the close association between the ureter and the peritoneum is a useful guide during operation. In spite of this, ordinarily it is preferable to carry out operations for lesions of the ureter entirely

as extraperitoneal procedures. Under unusual circumstances it may seem best to make the approach through the peritoneum, or at times the peritoneum may be accidentally opened in exposing the ureter. In this event, if the opening in the peritoneum is carefully closed, no harm will result. The extraperitoneal exposure is just as easily made. There is less danger from infection, and drainage, when it is necessary, is more easily established.

The several different lesions of the ureter which require surgical treatment may be classified into groups according to the etiology. These lesions may be the result of (1) a congenital anomaly, (2) trauma, (3) inflammation (ureteritis and stricture), (4) calculi, and (5) tumors (primary and secondary).

Congenital Anomalies.—Congenital anomalies of the ureters are common, although only a small number produce symptoms or require treatment. The ureters often are double on one or both sides, and while the condition may not result in trouble and frequently is not known, I have seen a few cases in which, as a result of the deformity, there seemed to be an intermittent obstruction to one or both ureters causing infection and destruction of the kidneys.

Intermittent hydronephrosis is occasionally encountered in very young persons and suggests that the obstruction which occurs at the uretero-pelvic juncture may be due to some irregularity in the development of the parts. The etiology of this form of hydronephrosis, which occurs at any age, is not well understood; it may be that some phase of the development is at fault. At times anomalous vessels seem to be a factor, but often even a microscopic examination of the tissues in the strictured area is negative and apparently the lumen of the ureter is patent most of the time. Recently I operated on a boy six years of age who had had severe renal attacks for three years. The hydronephrosis could be felt as a large tumor during each attack. During the later attacks his ureter had been catheterized without difficulty and with complete and immediate relief. A large hydronephrotic sac, a partially destroyed kidney, and a normal ureter below the juncture with the kidney pelvis, were found. I removed a part of the normal ureter with the kidney, but no cause for the condition could be demonstrated. Plastic op-

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erations for the relief of such conditions have not, as a rule, been satisfactory.

A number of years ago I reported several interesting cases of extravesical opening of the lower end of the ureter. Since then I have seen a few such cases, but the condition is not common. It may occur when there is a single ureter from each kidney or when there are four ureters, two on each side. When the patient has only two ureters, one of them usually opens into the bladder closer to the urethra than the normal position, and the trigone is irregular. In our cases the opposite ureter opened into the urethra outside the sphincter or into the vagina. In a case in which there were four ureters, two on one side and one on the other side, proved to be normal; the fourth opened into the vagina. The clinical features of these cases were characteristic. The condition had existed since birth and was discovered in infancy or childhood. A part of the urinary output passed into the bladder and was voided under the control of the sphincter, while that coming from the extravesical ureter dribbled continually. As a result there were both incontinence and normal voiding, which also is a characteristic feature. It is often difficult to locate the extravesical opening when the condition is suspected, although this can usually be accomplished by administering methylene blue and placing small pledgets of cotton into the urethra and vagina where these openings are most frequent. In such cases I have ligated the extravesical ureter with complete success and have also transplanted these ureters into the bladder satisfactorily.

Trauma to the Ureter.—The ureter may occasionally be traumatized by a fall or by external injury, although this is uncommon. I have operated on one patient in whom the ureter was completely severed from the pelvis of the kidney as the result of a slight fall. In a few other instances the ureter was found completely severed by an injury which ruptured the kidney itself. Most injuries to the ureter, which we are called on to treat, result from trauma during an operation or at childbirth; but such cases are not seen so frequently now as formerly when complete hysterectomy with removal of pelvic fascia was a common procedure in cases of carcinoma of the cervix. The ureter is occasionally injured during abdominal and vaginal pelvic

operations, rarely during operations on the colon. Experience has taught us how to avoid the ureter during such operations, although I am inclined to believe that the ureter was ligated more often than we realized during the performance of hysterectomies, for now and then a patient is seen on whom a hysterectomy was performed some years ago who has an impassable stricture just at the point where a ligature on the uterine vessels might include the ureter. So long as the kidney and ureter on the opposite side functionate normally there will be no clinical manifestations due to the sudden complete closure of the ureter. It has been shown that if the ligation is discovered within fourteen or fifteen days and the ligature removed, the kidney and ureter will resume normal function. We have extensive experimental and clinical evidence to show that the kidney which is unable to function, because of ligation of the ureter or of occlusion, will begin functionating quite rapidly on removal of the obstruction, even though the obstruction has existed for some time. Recovery eventually will be complete.

Inflammations.—Inflammations in the ureter alone are not very common, although ureteritis is often seen in conjunction with infections in the kidney. Independent inflammations in the ureter may occur in the form of stricture or the process may involve the greater portion of the ureter. Much has been said in the past few years regarding stricture of the ureter, and some observers believe that the lesion is common, occurring secondary to a distant focus of infection. In such cases patients are usually relieved by the passage of a small sound up the ureter to dilate the stricture. In our experience this lesion does not occur so often as it has been reported to occur. A true stricture of the ureter requiring operation for relief is not common, although it does occur and we have in a few instances performed plastic operations for the relief of the condition.

Diffuse ureteritis may occur independently and may be bilateral. The inflammation gradually destroys the entire lumen of the ureter. I have performed plastic operations and attempted to drain the inflamed tissue of the ureter. In one case, this was of no avail so that finally I followed the technic of Marion of suturing the kidney to the muscles as superficially as possible

and passed a small trocar through the cortex of the kidney into the pelvis and then introduced a rubber catheter into this opening. The opposite kidney had been removed some years before for the same condition. During the fifteen months since operation the patient's entire urinary output has passed through the tube in the remaining kidney. He has been able to carry on his work and is very comfortable. At the time of operation the kidney seemed fairly normal with the exception of a slight hydronephrosis.

Ureteritis is often associated with infections in the kidney and it is questionable whether the ureter should be removed since the procedure constitutes an added risk by exposing more tissue to infection.

In cases of hydro-ureter and hydronephrosis, the result of stone in the ureter, it is preferable to remove the ureter, at a second stage if necessary, as well as the kidney. If there is pyonephrosis I do not believe that it is necessary, as a rule, to remove the ureter with the kidney. Often it is almost completely destroyed and will seldom cause trouble if not removed.

In cases of tuberculosis of the kidney, ureteritis is one of the outstanding features, and the changes in the ureter usually are more evident grossly than those in the kidney. The swollen and edematous ureter extends up to and involves the bladder wall, producing the reddened and congested meatus which aids the cystoscopist in diagnosing the condition. Such ureteritis is largely a round-cell infiltration; there are very few tubercles in the tissue; often none can be found. In these cases secondary tuberculosis in a large wound, such as is required to remove both the kidney and the ureter, is a serious matter. In view of these facts and in view of the fact that the results are very good if the ureter is not removed, even though it is isolated, it seems to me that as a general rule the ureter should not be removed at the time of nephrectomy for tuberculosis of the kidney.

Calculi.—Probably the most common operation on the ureter is for the removal of impacted stones. Stones which form in the kidney often become lodged in the ureter and, in most instances, are found in the lower third of the ureter, close to the ureterovesical juncture. Un-

doubtedly most of these stones pass spontaneously, although a great many require treatment. If the stone in the ureter is not causing pain and is not obstructing the ureter, I see no reason why we should not wait to see if it will pass of its own accord. If it is causing trouble it should be removed, preferably by dilating the ureter and thus permitting the stone to pass on into the bladder, a procedure which can be carried out very satisfactorily in most instances. It is not well, however, to persist in dilating when nothing is being accomplished, and especially if there is intolerance to the cystoscope accompanied by reaction following the manipulation. Few surgical procedures have proved more satisfactory than the dilatation of the ureter for the removal of stones, but the open operation should always be performed if there is any contra-indication to the intravesical method.

Tumors.—Primary tumors of the ureter are rare. A few cases of cystic tumors and a few of papillary tumors have been reported as occurring primarily in the ureter. I have operated in one case for papillary tumor of the lower end of the ureter which will be reported shortly. The patient was a man aged 48 who gave a history of passing bloody urine at intervals for two years and without much change in his condition during this period. The lesion was diagnosed correctly at the time of cystoscopy, although it could not be demonstrated whether the tumor was primarily of the ureter or secondary to one in the kidney pelvis. Just before coming for consultation the patient had had an acute illness apparently from a pyonephrosis, and at operation we found that his kidney contained much pus and that the infection had extended into the peritoneal tissues. On this account we divided the operation into two stages, removing only the kidney at the first stage. After ten days the entire ureter and a segment of the bladder were removed. The neoplasm was confined to the lower end of the ureter. Although the kidney was partly destroyed, the destruction seemed to be due to infection; there was no evidence of neoplasm. No doubt this is a case of primary papilloma of the ureter.

Secondary tumors of the ureter are not so uncommon and usually occur with papilloma of the renal pelvis. We have seen a number of

these cases, and in each instance sooner or later papilloma occurred in the ureter, usually just above the bladder. I believe that the entire ureter should always be removed if there is a papilloma in the pelvis of the kidney. In some cases it may be best to operate in two stages, but the patient should not be dismissed until the ureter and ureterovesical area of the bladder have been removed. In two fairly early cases of renal papilloma we simply removed the upper third of the ureter at the time of the operation: in each instance there was a recurrence in the lower end, necessitating removal of the remaining portion of the ureter at a time when the chances for permanent cure were not so good. Such tumors are prone to recur in the bladder so that in all cases of papilloma of the pelvis of the kidney and of the ureter, the patient should undergo cystoscopic examinations at intervals after operation the same as a patient who has been operated on for tumor of the bladder. When papillomas of the bladder are diagnosed it should be borne in mind that the primary tumor may be in the kidney or ureter, and if feasible a more complete examination of the kidney and ureter should be made. In one case we destroyed the papilloma of the bladder by fulguration first, believing that it was the only lesion. The hematuria continued and we soon discovered that the primary lesion was in the pelvis of the kidney and that the tumor in the bladder was secondary.

In case the ureter has been traumatized during a pelvic operation or during an operation on the colon, if possible it should be repaired at once. End-to-end suture will be satisfactory in some cases. In one instance, after I had severed the ureter during a pelvic operation, I made an end-to-end anastomosis and wrapped the ureter with a cuff of peritoneum. There was a slight urinary leakage for a time, but this stopped in about two weeks, and eighteen months later we were able to pass a ureteral catheter, although there was some tendency to stricture. An end-to-side anastomosis has been made satisfactorily in some cases. If the injury is low I believe that it would be best to reimplant the ureter into the bladder. These operations have been satisfactory when employed for other conditions. We have followed the course of many of our pa-

tients with transplanted ureters for several years and have catheterized the ureters and made pyelograms four and five years afterward. The kidney function has remained normal after the ureter was transplanted. In a few cases strictures have formed at the point of anastomosis to the bladder. If a plastic operation cannot be carried out and if it is impossible to transplant the ureter there need be no hesitancy in ligating the ureter with a permanent ligature, and in all probability it will not be necessary to remove the kidney or to do anything further. This method, of course, destroys the kidney and should never be employed when any other means can be employed. It is also imperative to know that the opposite kidney is able to carry on the renal function. This procedure is often indicated when a part of the colon and several inches of the involved ureter are removed, and in cases of resection of the bladder for malignant tumor involving the lower end of the ureter. In such cases it is much better to ligate the ureter than to transplant it into the colon.

The blood supply to the ureter comes from two branches, from the renal vessels especially. There are also some small branches from the internal spermatic and vesical arteries. When we have been called on to remove the ureter, as in cases of neoplasm, the kidney also has been removed so that the vessels at the upper end have been ligated.

The entire ureter can be stripped from its surrounding tissue, usually without difficulty, and when the lower end is dissected out it brings this area of the bladder with it so that the entire ureter and quadrant of the bladder can be excised readily. If the kidney and ureter are both to be removed at the one operation it is usually best to remove the kidney first through a posterior lateral incision, and then free the lower end of the ureter and close the bladder through a separate anterior incision and remove the kidney and ureter in one piece. If the operation is to be performed in two stages, the kidney is removed first and later the ureter excised through a straight anterior incision through the rectus muscle.

Operations.—The most common operation on the ureter is the removal of stones. Stones are most often lodged in the lower third of the

ureter and often very close to the ureterovesical juncture, and sometimes in the part of the ureter within the wall of the bladder. Within the past few years methods have been devised for safely dilating the lower end of the ureter and allowing stones in this location to pass. This technic is now carried out so successfully that it must be considered the treatment of choice in the majority of cases of stone in the lower third of the ureter. In certain cases in which there is a great deal of infection, or in which the stone is very large, or in case the patient does not bear the cystoscopic examination well it is still preferable to perform the open operation for stones in the lower part of the ureter. If the stone is in the middle or upper third of the ureter I believe that it is usually best to remove it by operating. The results of operations for the removal of stones have been very satisfactory since we have developed a definite technic readily to expose the ureter and the stone and the operation can be completed without undue trauma. After the calculus has been removed through as small an incision in the ureter as possible it is often advisable to put in one or two fine catgut stitches loosely to close the opening. I have followed this plan in a great many cases and usually have succeeded in preventing urine from draining; apparently this has not caused trouble in any case. Care should be taken to prevent any tendency to stricture of the ureter by sutures.

DISCUSSION

DR. WARREN A. DENNIS, St. Paul: It is rather difficult to discuss a subject of this magnitude in the time allotted for discussion. Dr. Judd's paper is a most excellent one. It has covered a great deal of ground and there is little or nothing to disagree with. However, I would like to mention a few experiences in this line of work.

My first case of anomaly of the ureter occurred many years ago, before the days of the modern cystoscope, and had a tragic ending. A young woman of 28 who had had a nephropexy of the right kidney, still complained of severe pain in that region, with some pus in the urine and continuous slight fever. No tubercle bacilli could be demonstrated. Examination with the Kelly cystoscope showed two ureters entering the bladder in the normal location. Nephrectomy was done and later it was discovered that the kidney, although normal in contour, contained two pelvis and therefore represented the only kidney structure. The ureter from the upper pelvis

crossed the midline behind the bowel and in front of the great vessels and opened normally into the bladder. Previous operation on the kidney, and dense adhesions following, account for the failure in recognition of the true pathology.

Another case of double ureter was operated upon five or six years ago. In this instance a woman of about 50 presented a tumor in the right lumbar region a few centimeters below the kidney and about the size and shape of the kidney. Two ureters passed over the surface of the tumor, both slightly encroaching on the substance of the tumor. Inasmuch as the urine was normal the one ureter was tied off and removed and the other one resected and an end to end anastomosis done. She returned a few months later with a tumor in the right lumbar region. I supposed she had a recurrence of the tumor which had proved to be a spindle cell sarcoma. She was unwilling to have a cystoscopic examination made at the time and afterwards went to Rochester where the kidney was removed by Doctor Mayo. There had been no recurrence of the sarcoma but the tumor was an enlarged kidney caused by a stricture at the site of the anastomosis. The operation done was practically that recommended by Peterson, who believes the end to end method to be the best, the lower end of the upper segment being invaginated into the upper end of the lower segment, the latter being slit down slightly on one side and the excess of mucous membrane removed. No sutures should pierce the cavity of the ureter since it is extremely desirous to avoid round cell infiltration, such infiltration being likely to result in scar tissue and stricture.

In speaking of stricture of the ureter I presume Dr. Judd refers to the work of Hunner, who believes that it is many times more frequent than stone, in fact that stone is in a large percentage of cases the result of stricture. Stricture of the ureter Hunner believes to follow inflammation due to focal infection in some other part of the body. This may very well be true and certainly in a routine use of the ureteral catheter one not infrequently runs across distinct narrowings of the ureter. Stricture of moderate caliber is undoubtedly one of the causes of hydronephrosis and we know that with interference with drainage infection of the kidney is much more likely. It seems probable that there is much truth in Hunner's contention.

As Dr. Judd has pointed out, in cases of stone in the ureter it is wise to allow a considerable period of time to elapse in order that nature may, if possible, pass the stone without interference, and we know that in a large percentage of cases she is able to do this. However, in the presence of marked obstruction or inflammation or attacks of pain, no great amount of time should be lost.

The operation of choice is the extraperitoneal route through the rectus muscle and can ordinarily be accomplished without much trouble. However, in case there has been inflammation about a stone lo-

cated in the lower ureter, exposure of the field may be extremely difficult as I have discovered from experience. In one case of this kind a stone was felt after the ureter had been opened and was believed to have been pushed downward into the bladder with the probe. Later X-ray examination showed that it had been moved forward about one inch but was still in the ureter. A short time later, following an attack of ureteral colic, the X-ray showed the stone had disappeared. Nature could hardly be expected to be so kind in every case of that character.

THE PHYSIOLOGICAL BASIS AND CLINICAL APPLICATION OF BASAL METABOLISM*

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Let us first consider—what is metabolism? Metabolism has been defined as the basis of life and all its phenomena. Where there is life there is metabolism and even after death it continues for a short period of time. It exists in the protoplasm as well as in the body as a whole, the cell being the origin of energy, the seat of chemical change, of growth and of function. The digestion and assimilation of nutriment, reproduction, growth, inflammation, degeneration, regeneration, exercise of function, motion and emotions are all matters of chemistry but species, genus and periods of existence are determined by heredity, while size, weight and personal appearance are matters of metabolism. The regulating of metabolism is done by the endocrine glands or the glands of internal secretion. By the term basal metabolism of an organism is meant the minimal heat production of that organism measured from 12 to 18 hours after the ingestion of food and with the organism at complete muscular rest. This may be determined by actual measurement directly in a calorimeter or else indirectly by analysis of the end products which result from oxidation within the organism, that is, the amount of oxygen absorbed and amount of carbondioxide given off in this process of combustion; also measuring the amount of nitrogen eliminated in the urine and feces. It has also been shown by many workers that the basal metabolic rate is found to bear a

constant relation to the surface areas, the rate thereby becoming mathematically a function of the body surface.

The first experiment in the metabolism was done by Lavosier, in 1780. He identified and named the gases of combustion and understood and described very clearly the problem of animal combustion both qualitatively and quantitatively. Very important work was next done by Carl Voit and his pupils the chief of whom were Pettenkofer and Rubner. Rubner determined heat values of carbohydrates and fat first, and later that of proteins. These were absolutely necessary before the method of indirect calorimetry could be employed in order to calculate the heat derived from their combustion in the body.

The story of the development of calorimetry from this time to the present day is a very interesting one, but will not be included in the scope of this paper. Suffice it to say that it includes the names of prominent men in the history of recent experimental work in clinical and physiological medicine, among them Atwater of Wesley University and Benedict of the same institution, Lusk and Williams of Cornell Medical College, Eugene Dubois of the Russell Sage Institution of Pathology and his brother, D. Dubois, Krogh of Copenhagen and Carpenter of Carnegie Nutrition Laboratory. These are the pioneers in its development.

The development of indirect calorimetry is to be credited mostly to Benedict who devised the first respiratory apparatus for determining the basal metabolism by this method. A great amount of experimental work showed that the indirect method checked within a very small percentage of the direct method of calorimetry. Benedict and his associates, also Lusk and Dubois and their co-workers, have likewise demonstrated in a large series of normal and pathological conditions the close agreement between the two methods. As a result of these investigations the use of such a complicated apparatus as a respiratory calorimeter has been shown to be unnecessary for clinical work and that in its place a comparatively simple method of indirect calorimetry may be used and that in the majority of cases it is really more accurate than the more complicated apparatus. This simple method is the one used at our Clinic.

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Our tank has been modeled after the gasometer introduced by Tissot in 1904. A simple description of our method is as follows: A mask is adjusted over the patient's mouth and nose. By means of expiratory and inspiratory valves the total volume of the patient's expired air is collected in the gasometer for a known period of approximately 10 minutes. Duplicate determinations are made of the carbon dioxide and oxygen content of the expired air, the analysis being done in the Haldane gas analysis apparatus. Hence the ventilation rate for each minute is known as well as the amount of carbon dioxide produced and the oxygen absorbed, and it is possible to calculate by means of a caloric table the total number of calories produced each hour.

The respiratory quotient, that is, the ratio being burned in the body. Any substance when consumed demands a certain amount of oxygen in the process of combustion; that is, the ratio of carbon dioxide over oxygen is constant for any substance. The more highly oxidized a substance is at the start, the less oxygen it needs to complete oxidation; hence, the higher will be the respiratory quotient. We know the respiratory quotient for fats, proteins, and carbohydrates, these having been determined, and we also know the heats of combustion for various foods and, since they give the same amount of heat in the body as in a retort, it has been possible to calculate the value in calories of a liter of oxygen for any respiratory quotient between .7 and .1. Thus, if we know the respiratory quotient and oxygen absorbed we can calculate the heat production by this formula: Oxygen absorbed per hour multiplied by the caloric value of the oxygen formed for any definite respiratory quotient, equals the calories per hour. The total number of calories must, however, be divided by the surface area, a factor depending on the patient's height and weight. F. Dubois and D. Dubois have shown that there is a direct relation between the basal metabolism and the surface area of the patient with regard to age; and further, that the basal metabolism of normal persons can be predicted accurately to plus or minus 10 per cent, in conjunction with their standards of normal basal metabolism, by means of the surface

area. They have given us a formula and chart by which the surface area can be easily calculated in any individual where the weight and height of the patient are known. This fact has been confirmed by Means and Boothby. Thus we are able to determine the basal metabolism in a practical and easy applicable manner and with an accuracy of within 1 per cent as has been shown at the Mayo Clinic where over 12,000 tests have been done.

The basal metabolic rate is of the greatest value in the thyroid disorders, in their diagnosis as well as their treatment. Frederick Buehler, in 1893, first pointed out the increase in metabolism in exophthalmic goiter by showing that the patient lost weight and nitrogenous substances on a diet that was more than sufficient to cover the needs of a normal person. Magnus-Levy two years later was the first to demonstrate the increase in the respiratory metabolism in hyperthyroidism and the decrease in myxedema. Since then he has studied many cases of both diseases and used the respiratory metabolism as index of the effects of treatment thus demonstrating the increase in heat production following the administration of thyroid extract.

In exophthalmic goiter the metabolic rate may rise well over 100 per cent above normal while in myxedema with apparent complete cessation of thyroid activity the rate falls to a region of 40 per cent below normal. In the milder cases of both groups the metabolic rate variations from the normal are proportionally smaller. This has been the conclusion arrived at by a great many men who have done experimental work along this line. Boothby and Sandiford of the Mayo Clinic under the direction of Plummer report 549 patients with thyroid disorder on whom 1143 metabolic rates were determined. In 182 cases of exophthalmic goiter before any treatment was instituted the average metabolic rate was plus 51 per cent and the average pulse rate 115. After rest in bed it was definitely shown in each case that not only the pulse rate went down but the metabolic rate also was found to be decreased.

Snell, Ford and Rountree have shown in a small series comprising 13 cases which were all typical clinically of exophthalmic goiter, the

basal metabolic rate ranging from 22-82 per cent plus, the rate being approximately proportionate to the clinical evidence of thyroid intoxication. Two patients of this series died. The patient with the higher rate, plus 82 per cent, died within a month after ligation; the second patient, plus 56 per cent, did not come to operation but died of influenza and apoplexy. In another series of 11 cases of thyrotoxic-adenoma the metabolic rate ranged from 10-45 per cent plus. After surgical treatment the majority of these cases showed a decrease in the metabolic rate as well as in the symptoms. They conclude their work with the statement that the basal rate furnishes an accurate index to the results of medical and surgical treatment of conditions of the thyroid gland and thereby becomes of value as a guide in the treatment as well as an index to the severity of the disease.

G. F. Dubois of New York in his fourteenth paper, entitled "Metabolism in Exophthalmic Goiter", introduces it as follows: "To those who are accustomed to think in terms of the energy requirement, exophthalmic goiter stands out par excellence as the disease of increased metabolism, and the increased metabolism stands out as the chief symptom of hyperthyroidism. The determination of the heat production seems to afford the best index of the severity and course of the disease." He further states that he has found an increased basal metabolism with great regularity in exophthalmic goiter and, on the other hand, in Cretinism and myxedema, the metabolism is lower than in any other disease. He concludes that all diseases in which metabolism is increased are easily distinguishable from exophthalmic goiter and they never approach the extremes found in this condition and the measurement of the heat production, that is, the basal metabolism, gives us the best index of the severity of the disease and the effect of the treatment. Very severe cases show an increase of 75 per cent or more above the normal, severe cases, 50 per cent or more and mildly severe and mild cases, less than 50 per cent.

The question of metabolism in exophthalmic goiter has been reviewed by Magnus-Levy, Hurst and Falta. Schultz has given a large number of references on the subject of Cretinism.

Janney and Henderson, in their recent paper on hyperthyroidism, state that the basal metabolic rate determination has the advantage of being entirely objective and is thus peculiarly applicable to border line cases.

Magnus-Levy, Dubois, Means and Aub have also found this method the best laboratory aid to diagnosis of thyroid conditions we now possess.

Let us now compare the value of basal metabolism determinations in thyroid disorders and some of the other simpler objective tests. In reality no one of the objective tests taken gives an accurate idea of the course of the disease but when a number are taken together and added to the clinical impressions of the observer they afford a rough measure of the severity of the disease.

The rapidity of the heart action is perhaps the best guide but the heart is also affected by other conditions and damage to the heart may outlast the other symptoms. Sturgis and Tompkins of Boston in a study of 496 basal metabolisms found that the pulse rate varied directly with the metabolic rate; in other words, an extreme degree of tachycardia suggests a greatly increased metabolism while a slight tachycardia indicates a moderate degree.

Again, rise in temperature is so irregular as to preclude its use as a reliable index. Changes in the size of the gland do not parallel the course of the disease; changes in weight, warmth of skin and sweating are but indications of the increase in heat production. Eye symptoms, tremor, nervousness, irritability, weakness, diarrhea are all too variable to be relied on and are too difficult to measure accurately. The blood pressure is of some use as a guide but is affected by the age and by the condition of the cardiovascular system. Janney and Henderson have shown that the sugar-tolerance test depends on other ductless glands as well as the thyroid and even in itself has wide limits. The mononucleosis which has been considered characteristic by Koker, Halsted and others is found in other diseases and does not seem significant enough to be our main reliance. The Goetsch adrenalin test has been found to vary considerably and is also merely a qualitative rather than a quantitative test. Sandiford of the Mayo Clinic could dem-

onstrate no relation between the intensity of the epinephrin reaction and the degree of hyperthyroidism. Marine and Lenhart of Western Reserve University Medical School have confirmed these findings in experiments on animals. Peabody and his associates report that hypersensitivity to epinephrin is found in patients who have no indication of hyperthyroidism and that the fundamental nature of the reaction in the Goetsch adrenalin test is unknown but it probably only indicates a hypersensitivity of the sympathetic nervous system and should certainly not be regarded as having any specific significance in the diagnosis of hyperthyroidism.

Basal metabolism determinations are also of value in hypothyroidism as well as in hyperthyroidism. Magnus-Levy found that in myxedema the rise in heat production began in the first week of the administration of thyroid extract and increased gradually to the fourth and fifth week. The effect was most pronounced in severe cases, causing a rise from 15 to 70 per cent. In mild cases the increase was slight never going above 12 per cent. In five out of nine normal controls there was no rise at all.

Von Borgen and Means found a marked rising metabolism after thyroid administration in myxedema.

Eugene F. Dubois, using a calorimeter, found the basal metabolism in a case of a cretin to be 20 per cent below the normal. Snell, Rountree and Ford in a series of thirteen cases of cretinism and myxoedema, investigated from the standpoint of basal metabolism, found the metabolic rate varied from -7 to -25 per cent and that there was a prompt rise after the intravenous injection of thyroxin. Plummer of Rochester corroborated these findings by his own experimentations especially as to the rapid increase in the metabolic rate following the intravenous injection of thyrotoxin. It is interesting to note that when the thyrotoxin was given by mouth, the rise was very much slower and less marked.

Janney and Henderson, previously referred to, after a series of experiments concluded that latent hypothyroidism is more frequent than is generally supposed and found the basal metabolic test most valuable in diagnosing this condition. As among eighteen consecutive thyroid

cases this condition was present in twelve, four cases being dysthyroidism and only one presenting classical myxedematous symptoms. At our Clinic, out of twenty-seven consecutive thyroid cases, eight proved to be hypothyroidism.

Thus, if a case gives a history of obesity particularly in early life, mental symptoms, marked liability to contract infection, hair anomalies, dry, hard skin with pigmentation and atrophy, cold extremities and cold skin generally, obesity, decreased size of thyroid and subnormal temperature, pulse and respiration, a metabolic test may help us to arrive at a diagnosis of hypothyroidism.

We have found it very helpful at our Clinic in diagnosing the border line cases especially those showing some of the above symptoms.

In the treatment of hyperthyroidism, mental and physical rest is the surest means of securing a drop in the metabolic rate which indicates a diminution of the activity of the thyroid. Ligation of the arteries of the thyroid, as shown by E. F. Dubois, usually causes a distinct rise in heat production which may last for several weeks. Thus, following a ligation of the arteries the patient should be kept as quiet as possible and thyroid extract should on no account be given. He also showed that various drugs including the serum of thyroidectomized animals the roentgen ray and Beebe serum have had little effect in decreasing the metabolism or the toxicity of the disease. Means and Aub, however, in their publications have shown where a distinct value has been obtained by the roentgen ray in the treatment of toxic thyroid with a marked decrease in the metabolic rate after its use. Rountree gives one case where it has been used with the same effect. We have used it on 2 cases considered too toxic to operate. The clinical symptoms and the basal metabolic rate in both cases returned to normal after four or five treatments during a period of six months. However, there are great opportunities open here for experimentation and yet no definite conclusions can be drawn.

Before closing the subject of the value of basal metabolism in thyroid study let us remember as Janney Henderson has shown that in the interpretation of basal metabolic studies it must, however, be borne in mind that, in such, merely

the total requirements for oxygen and carbon-dioxide production of the body at a given time are so measured. Though increase in the metabolic rate is at present the most exact laboratory aid in determining of the thyroid function, this method merely measured the degree of utilization or production of two essentially end products of metabolism. The fact that blood glucose and basal metabolism determinations do not coincide on thyroid cases indicates possibly that the metabolic disturbance in thyroid disease is more complicated than the metabolic rate would indicate. It is probable that the metabolic rate merely shows the end result of the inter-activity of the endocrine glands, the most important of which is probably the thyroid.

Let us next consider the basal metabolism in pernicious anemia. The majority of investigators, including Finkler, Lukjanow, Pembrey, Gurber, Delchef and many others, have found an increase in the basal metabolic rate. This held true with the leukemias and chlorosis as well. Magnus-Levy, Pettenkoffer and Voit found an increase in metabolism in leukemia patients. A. L. Meyers and Dubois in a study of five cases of pernicious anemia found an increase of metabolism in all cases, the figures varying from 2 to 33 per cent above the average normal. They found the basal metabolism of pernicious anemia to be lower than that of leukemia but as a rule higher than that of secondary anemia. They also think that there is some ground for the belief that the height of the metabolism is a measure of the severity of the clinical picture.

In three of our cases we found the metabolism to be 10 to 20 per cent plus when the hemoglobin was low, while it varied from normal to 20 per cent during the remissions.

Tompkins of Boston found after transfusion the metabolism always reached the normal or diminished level. Remembering that transfusion causes a diminution of pulse rate and respiratory activity and a drop in temperature, which has been previously elevated, the lowering of the metabolism is probably due mostly to a decrease in the muscular activity in the anemic individual although this is not entirely true as the response of metabolism to transfusion lags

behind that of all the other factors by an interval of several days.

The study of metabolism in diabetes is still in its infancy. Many experiments have been done by various men all indicating at least a normal or slight increase in the basal metabolism but this is not the significant thing as it is very difficult to calculate the accurate base of metabolism in diabetes because at present we have not a satisfactory standard between diabetic and non diabetic patients. The most value of basal metabolism in diabetes is what it tells us about the oxidation processes going on in the body in varying cases of severity, and the effects of various diets. Allen and Dubois have clearly shown that the old von Norden idea of treatment is erroneous and that there is no special influence of oatmeal in diabetes or special readiness of oxidation of this form of carbohydrate.

The level of metabolism in diabetes is a resultant of a number of forces; for example, increased destruction of proteins and perhaps other processes, tend to increase metabolism and undernutrition, muscular relaxation and other possible conditions tend to diminish metabolism. So the actual metabolic rate is not so important for it depends which one of these groups predominates, as to whether a higher or lower metabolism will be obtained in any individual case of diabetes. There are still great possibilities for experimental metabolic work in this disease but metabolism already has been shown to be the key to oxidative processes occurring in the body and an aid in the dietary therapeutics and possibly even an index to the severity of the disease.

Basal metabolism in diseases of the pituitary glands has been studied very little. Snell, Ford and Rountree in a series of seven cases found that it varied between -10 and + 30 but after treatment with pituitary extract there was a tendency for the metabolism to reach the normal level. Means has also done some work along this line.

The literature contains extremely few reports on observations of metabolism of patients with heart disease. Work has been done by Kraus, Grafe and more recently by Peabody, Meyer and Dubois. Their results show that the metabolic rate itself is not so important but ~~as~~ ^{as} the

the respiratory quotients obtained may give us an insight as to the possible causes of acidosis or dyspnea in these cases.

McKann and Barr of New York have made an extended study of basal metabolism in tuberculosis. They agree with previous investigators including Kraus, Chvostek, Speck, Robin, Binnet and Stashelin that the specific dynamic action of protein in tuberculosis is very important in the treatment of the condition. They have noticed that a rise of metabolism occurs in cases of tuberculous patients after ingestion of large amounts of proteins. The importance of rest during periods of activity in pulmonary tuberculosis has been generally recognized in artificial pneumothorax, rest in bed, and control of the cough, the volume of the respiratory exchange and the total ventilation being thus reduced. This seems to be a desirable end for which we strive during the period of encapsulation of the foci of the disease. It does not seem to have occurred to the practitioner that an increase in metabolism due to the specific dynamic action of protein will have the same effect on the respiratory exchange as a similar increase due to muscular work.

Thus, during periods of acute activity of the disease it may be well to limit the protein intake and the total calories fed to patients to the minimum necessary to maintain nitrogen equilibrium without regard to the weight of the patient. Later, when acute symptoms have subsided, and when there is evidence that the natural barriers against the disease are established a more general diet could be given with less fear of the effects of an increased respiratory activity.

This is verified by Janney and Newell in the relationship of tuberculosis and diabetes. These authors point out that the course of pulmonary tuberculosis complicating diabetes does not seem to be influenced unfavorably by the state of undernutrition resulting from a rigid adherence to the proper diabetic diets but quite the reverse.

Coleman and Dubois found very little specific dynamic action of protein in febrile typhoid patients. Koehler has verified their results.

This data, although small, will serve as a starting point for work of a similar nature which should be done in all febrile conditions where dietary therapeutics are important.

SUMMARY

1. Determination of the basal metabolic rate is based on sound physiological principles and is the best index we have to the combustion going on in the body in various pathological conditions. The method of indirect calorimetry as described is not only practical but is accurate.

2. Determination of the basal metabolic rate is the most valuable single test that we have at present to measure the severity of the disease in exophthalmic goiter, but must always be taken into consideration with the clinical history and general aspects of the case. It is also very valuable in determining the effects of medical or surgical treatment and of the more recent method of roentgen ray treatment. It is especially valuable in the diagnosis of border line cases.

3. It is a great aid in the diagnosis of hypothyroidism and especially in its treatment.

4. In diabetes mellitus, the basal metabolism is an aid in determining the rate of the various types of foods given during the course of the treatment and has probably thrown some light on the cause of acidosis. The rate itself is about normal and of little significance.

5. In pernicious anemia, basal metabolism throws new light on the oxidative processes going on in the body and is an aid in the treatment, especially in determining the effects of transfusion and diet. Some men believe that the height of metabolism is the measure of the severity of the disease.

6. Basal metabolism in the diseases of the pituitary gland is still an unknown factor but enough work has been done to show that remarkable results may come from experimentation in this condition.

7. The work of metabolism on patients with heart disease is also very meager but may give us valuable information about the development of acidosis as well as the cause of dyspnea and the proper diet to use in these cases.

8. The results of basal metabolism study in tuberculosis may revolutionize the present method of dietary treatment especially in active cases although it has not been as yet definitely proven. The same is true in typhoid fever and other febrile conditions.

CONCLUSION

Basal metabolic determinations are a valuable

aid in the diagnosis and treatment of diseases dependent upon endocrine dyscrasia especially in disorders of the thyroid gland. The metabolic rate probably indicates the end result of the interactivity of the endocrine glands, the major role of which is played by the thyroid gland.

Note:—The details of technique and sources of error in metabolism determinations had been dealt with very completely by Boothby and Sandiford in their book entitled "Technique of Basal Metabolism Determination."

PARENTERAL INFECTIONS IN INFANCY*

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The rapid rate of the growth of the infant makes great demands on the digestive and resorptive powers of the gastro-intestinal tract. Any derangement of its function leads to very serious consequences. Any infection or disturbance in the parenteral systems is mirrored in a disorder of the gastro-intestinal tract. Deaths from gastro-intestinal diseases in the past have been more numerous than from all other causes combined. The digestive disturbances of infancy can be roughly divided into acute and chronic diseases. It is interesting to follow the history of the etiology of these disturbances and to see the wide differences of opinion, and the fundamental changes in the various conceptions.

If we go back far enough, we shall, of course, reach the days when teething was held responsible for digestive disturbances as well as for all the other ailments that befell the infant. Later, bacterial infection of the bowels was held responsible for the high mortality rate from gastro-intestinal diseases. With the discovery that a great variety of organisms could be isolated and that no one organism played a predominant part, the conception of bacterial origin of gastro-intestinal diseases, except for that group of infectious diarrheas due to the Shiga organism, was gradually dropped. In the next period, the action of bacteria was considered an

indirect one, that is, spoiling food products and producing toxic substances which, in turn, give rise to enteric diseases. More recently, the maladjustment of the food to the individual digestive powers of the infant has been held responsible for the high mortality from gastro-intestinal ailments.

These ideas touch on two of the causative factors in intestinal diseases, namely, infections of the intestinal tract and improper adjustment of the food to the digestive powers of the infant. A third factor embraces the disturbances caused by constitutional anomalies. Czerny's classification comprises (1) disturbances due to infection, (2) disturbances due to alimentation, and (3) disturbances due to constitution. It is to a group of disturbances of digestion and nutrition caused by acute and chronic infections outside the gastro-intestinal tract that I wish to call your attention. It is well known that any infectious disease of the adult may be initiated by gastro-intestinal symptoms, such as anorexia, nausea, vomiting, constipation, or diarrhea. The same holds true for the infant. My reason for directing attention to this group is that to a great extent parenteral infections are being treated as infections or disturbances of the gastro-intestinal tract. The most serious feature of this misconception is the failure of the diagnostician to ascertain the cause of the diarrhea or anorexia so that the infection, unless self-limited, is allowed to progress. The so-called winter epidemics of cholera infantum are, in many instances, nothing more than marked reactions on the part of the gastro-intestinal tract to infections of the upper respiratory tract. In the summer, the season in which gastro-enteritis is prevalent, there is an even greater tendency to overlook the part of parenteral infections. In many infants, thriving on the breast, or on artificial food mixtures, acute bowel disturbances are of an infectious nature. In the summer, tonsillitis, and particularly follicular pharyngitis, are very frequently accompanied by severe intestinal disturbances.

Tonsillitis, nasopharyngitis, otitis, or pyelitis, etc., in infants may exist without causing local symptoms. This lack of local symptoms constitutes the main reason why the parenteral nature of the nutritional disorder is so easily over-

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looked. The general symptoms of fever, irritability and restlessness are readily ascribed to a gastro-intestinal disturbance with symptoms of nausea, vomiting, and frequent stools. This conviction is still further strengthened by the improvement in the general symptoms coincident with the results of free catharsis. This result naturally leads to acceptance of the view that the disturbance was of a gastro-intestinal nature. As a rule, these infections are of very short duration and the temperature seems to drop almost coincidentally with the effects of the catharsis. If a child has diarrhea, we are inclined too readily to ascribe the symptoms to gastro-enteritis. Often the child has gastroenteritis, but in many instances a careful physical examination reveals some parenteral infection which is responsible for the gastro-intestinal symptoms. If the infection is mild, the damage done by the use of cathartics for a day or two is not very great; if, however, the disease is otitis media or pyelitis and the temperature persists for a week or more, the results of continuous catharsis may be serious and endanger life. The complete emptying of the bowels unquestionably is of great benefit, and the response of the mucosa with increased secretion is of great importance. The reason so frequently given for continued catharsis is that the stools are green and, in spite of catharsis, remain so. If calomel is being used the stools will tend to be green. With the use of other cathartics, depending on how complete the hunger stool is, the shade will vary from brown to olive green. These olive green hunger stools in particular are wrongly interpreted as evidences of irritation, and catharsis is continued.

The harm done this way is two-fold: first, the excessive catharsis, and frequently starvation, and second, oversight of the underlying cause. The realization that an infection anywhere in the body has a very decided effect on the digestive processes is of the utmost importance. It is essential, therefore, that any infant with an acute disturbance should be carefully examined for parenteral infections. Inasmuch as they are relatively few the task is not difficult. Infections in infants beside the occasional infections of the gastro-intestinal tract are in most cases either those of the upper respiratory

tract or of the urinary tract. An affection of the upper respiratory tract is frequently difficult to localize when it involves the nasopharynx alone. If it is associated with swelling of the nasal mucous membrane, it becomes very evident by the noisy breathing and difficult nursing. It is important to remember that frequently in the first twenty-four hours of an acute infection of the throat there may be little, if any, redness or swelling of the fauces and only after twenty-four hours do the local signs become manifest. The common cold usually precedes the more severe manifestations of the bronchi, lungs, or ears. The interval between the cold and its complications may be extremely short, but almost invariably a period of one or more days intervenes. The more acute the onset of the illness, the more likely is the appearance of gastro-intestinal symptoms. The infection very markedly disturbs the secretion of the digestive juices and as a result the food remains undigested in the stomach, to be returned by vomiting or, if passed into the small intestine, setting up disturbances that give rise to diarrhea. Thus anorexia, vomiting, and diarrhea result from an infection elsewhere in the body which may give no signs locally and manifest itself only in the gastro-intestinal canal. It might be well to illustrate this type of infection by the report of a case:

A breast-fed child, who had been doing well for a period of months, became suddenly ill with vomiting and frequent stools. On physical examination, the findings, except for fever, were absolutely negative. A specimen of urine was free from pus. A cathartic was administered and the child seemed better the following day, but the fever still persisted. Numerous small grayish follicles were visible in the throat with considerable reddening about them. The child was kept on reduced feedings; the temperature was normal on the third day; the recovery was uneventful.

The patient on the first day appeared, without doubt, to be suffering from some primary gastro-intestinal disturbance, but by the findings in the throat the second day it was very evident that the disturbance of the bowels was secondary to the infection in the throat. The use of the cathartic was indicated to remove any undigest-

ed food that might irritate the intestinal tract. The uneventful recovery, therefore, would have made it appear, had no further examination been made, that the entire condition was due to a bowel disturbance.

The following case illustrates the importance of infections of the urinary tract:

An artificially fed infant, who had not been ill before, was taken for an automobile ride by its parents. Several hours later, after taking its bottle, it had repeated attacks of vomiting and numerous thin stools. The temperature was 103°. The physical examination was entirely negative. It was impossible to obtain a specimen of urine that evening. The child was given a cathartic and put on water for twenty-four hours. A provisional diagnosis of acute gastro-enteritis was made. A specimen of urine, obtained the following day, was loaded with pus cells and, on culture, revealed numerous colon bacilli. The fever lasted for one week. The child made an uneventful recovery on alkali treatment.

This type of case, even more frequently than those of gastro-enteritis secondary to respiratory infections, is likely to remain unrecognized, because in general practice it has not yet become the rule to examine the urine of infants. As a result, the majority of cases of pyelitis are still treated as if they were gastro-enteritis. Fortunately, some of these cases are not extremely severe and the infants recover in spite of the treatment. A good many, however, swell the number of reported deaths from gastro-enteritis in our mortality statistics.

I wish to emphasize once more that gastro-intestinal disturbances in the infant are very frequently due to infections in organs other than the gastro-intestinal tract and that localization of the infection is of the utmost importance in any febrile disturbance. Two examinations should never be neglected, the examination of the ears and the microscopic examination of the urine. In some instances a differential blood count may be of use. Generally speaking, a polymorphonuclear leukocytosis suggests a parenteral infection.

If we pass on to the group of chronic cases, we find that diagnosis is even more difficult. I am referring to the cases of atrophy that are due

to parenteral infection. These can be roughly classified under four heads: (1) syphilis, (2) tuberculosis, (3) chronic infections of the urinary tract, and (4) chronic infections of the upper respiratory tract.

The diagnosis of syphilis in the infant is relatively simple when there are external lesions, but such lesions may have disappeared or may never have been present. A positive Wassermann reaction, or bony changes, as seen in the roentgenograms may be the only means of determining the infection. The results are particularly bad in congenital syphilis without treatment, and even with treatment it is usually necessary to use breast milk in order to obtain satisfactory results.

In cases of atrophy due to tuberculosis, specific symptoms may be entirely absent. Occasionally there may be cough, suggestive of whooping cough, due to an enlargement of the bronchial lymph nodes, that calls attention to the possibility of a tuberculous infection. The von Pirquet skin test is a very valuable help in the diagnosis, as is also a positive Despine sign. The prognosis is usually bad, and the number of recoveries from tuberculous infection during the first year is small.

In the third group, chronic infections in the urinary tract, there is a considerable number of cases. There seems to be a double relationship between pyelitis and gastro-enteritis. Acute infections of the urinary tract give rise to acute digestive symptoms, and the persisting infection gives rise to a lowered digestive capacity of the gastro-intestinal tract. On the other hand, the diarrheal disturbances are frequently associated with bacilluria and pyelitis. It is therefore of the utmost importance that in all cases, even without febrile periods, the urine be examined, as it is only after the clearing up of the infection that satisfactory nutritional results can be achieved.

The chronic infections of the upper respiratory tract, particularly those associated with chronic otitis media, frequently cause atrophy. The same is true of chronic bronchitis. Many of the infants suffer from rickets also and, unless this is properly treated, it is practically impossible to free them from infections of the respiratory tract. In these cases in particular very remarkable results are obtained by the ad-

ministration of cod liver oil and phosphorus, which frequently act as a specific in clearing up chronic bronchitis.

I have tried to present to you, very briefly, the importance of an exact diagnosis in the interpretation of that symptom in infants that is most often made the object of treatment, namely, diarrhea, and I have attempted to show various factors that may be responsible for this symptom and the danger of treatment, unless a diagnosis has been made. I have tried further to show the importance of primary emptying of the bowels in all acute infections and the danger of prolonged catharsis.

In conclusion, let me repeat again that diarrhea is a condition that may be caused by a variety of factors, many of which lie outside of the gastro-intestinal tract.

DISCUSSION

DR. ROOD TAYLOR, Minneapolis: Dr. Helmholtz has most admirably presented a subject which is of great importance to all of us who treat children. When one of us becomes ill with pneumonia, tonsillitis, fever of any kind, we as a rule lose our appetite. We do not want to eat, but we do want to drink. The baby's food is largely liquid; he does not distinguish between thirst and hunger. When suffering with one of these parenteral infections, he is apt to take more milk than he can digest because of his desire for fluid, and this will frequently produce diarrhea. In the city of Minneapolis, we have found that the great majority of cases of diarrhea we have to deal with are not due to improper feeding, nor to infections of the intestinal tract, but are due to infections elsewhere—infections of the ear, throat, chest, and kidneys. Dr. Helmholtz has wisely stressed the importance of making a correct diagnosis so that correct treatment can be instituted.

I would also like to say a word about something which Dr. Helmholtz mentioned, and that is chronic parenteral infection. We are all of us familiar with the adult with advanced tuberculosis who has chronic diarrhea and on whose body at autopsy we find no tuberculous lesions of the intestine. We occasionally see children who come in, 4 or 5 years of age, with a chronic diarrhea, having 6 or 7 stools daily, the stools containing no pus or blood. There will be oftentimes no physical signs in the chest, and a negative cutaneous tuberculin test. The x-ray picture in these cases shows tuberculous infiltration of the lung. I have seen two children, both of whom had diarrhea lasting three months, which resulted from a different type of parenteral infection. The diarrhea in one case ceased within twenty-four hours after an abscess in the middle ear was opened, and in the other it ceased shortly after a large mass of infected adenoids were removed.

ON THE PREVENTABILITY OF CERTAIN CASES OF CHRONIC NEPHRITIS*

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Three authoritative and stimulating papers referable to chronic nephritis and its problems have been recently published. Christian has discussed the deficiencies in our present methods for the treatment of this disease and has shown clearly that present therapy is largely symptomatic and is based on our knowledge of renal function rather than on anything deeper. Preventive treatment is almost nonexistent and will remain so until more is known of the etiology of chronic nephritis, and particularly of the factors that influence the progressive development of renal lesions.

Mackenzie has pointed out that almost all medical research in the recent past has been restricted chiefly to laboratories and in a less degree to hospital wards, where disease has been studied only after it has reached an advanced stage or after it has killed the patient. In Mackenzie's judgment the future of medicine does not depend so much on research work under these conditions as on observations made in the earliest stages of the disease when its course may be amenable to treatment or mitigation.

Finally, Joslin has written on the prevention of diabetes mellitus. This paper is one of the first to deal specifically with the prevention of any chronic progressive disease of unknown etiology. Yet Joslin produces facts to prove that diabetes in many cases is a preventable disease and states that the physician should consider it as important to prevent diabetes as to prevent small-pox or typhoid fever.

These three papers are very suggestive: The first because it emphasizes how unsatisfactory is the present method of treatment of chronic nephritis and because it hints at what the second discusses in greater detail, namely, certain fallacies in our present methods of clinical research; and the third because it shows how a chronic and progressive disease of unknown etiology such as diabetes may be preventable in

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many persons. It would seem possible that nephritis, also a chronic and progressive disease, may be preventable in many persons if only its problems are attacked from a new angle and early in its development instead of late.

So critical a pathologist as Mallory believes that chronic nephritis is due originally to a toxic lesion which is of several varieties, but is most commonly bacterial. The initial lesion is usually acute but may be recurrent or chronic. It may terminate in complete recovery if the patient survives or in a more gradual sclerosis in the capsular space, glomerulus, or blood vessels as the result of the processes of repair. Sclerosis of the kidney, as it appears at necropsy, is the sum total of sclerosis affecting parts or the whole of many or all of the units of the kidney and is due to repeated acute or chronic toxic insults.

There is increasing bacteriologic evidence to support the belief that chronic nephritis is often of infectious origin. Davis, for example, cultured the tonsils from ten cases of nephritis and in nine found hemolytic streptococci the predominating organism. Le Count and Jackson injected rabbits with streptococci from cases of acute tonsilitis and found renal lesions in more than half of their inoculated animals. They believed that these organisms besides causing acute nephritis also produced a characteristic chronic disease of the kidney in a certain number. Klotz injected various strains of *Streptococcus viridans* into rabbits and was able to produce a form of acute interstitial nephritis which developed subsequently into well marked renal sclerosis. As a result of such experiments, attempts have been made to treat nephritis by the removal of possible foci of infection. Billings reported six cases which were greatly improved after tonsillectomy. Crowe, Watkins and Rothholz followed the course in eighteen cases of varying degrees of severity from seven months to three years after the tonsils were removed. Two patients with advanced nephritis died, the operation having had no obvious effect on the disease. The other patients were much improved or well. Finally, the work of Bumpus and Meisser shows that pyelonephritis is often due to a diseased tooth or tonsil harboring streptococci which have a selective affinity for the urinary tract, and that the colon bacillus which is commonly found in

the urine of such patients and which is generally believed to be the cause of the disease is of secondary importance. Removal of the original focus, in their experience, had been followed by great improvement in the condition of the genitourinary tract.

On the whole there is considerable evidence from pathologic, bacteriologic, and clinical standpoints to show that chronic nephritis begins as an infection which is often influenced by organisms found in diseased teeth and tonsils, and that removal of such foci of infection may be followed by general improvement. In view of these facts it has seemed of interest to follow a group of patients with nephritis for a period of several years in an attempt to collect evidence with regard to the early development and possible prevention of chronic nephritis. For this purpose the records of all persons under 40, in whom a diagnosis had been made were selected from the records of the Mayo Clinic for the year of 1918. This age limit was arbitrarily fixed in order to exclude as far as possible arteriosclerotic nephritis and to include the more inflammatory type of glomerulonephritis. The year 1918 was chosen because it allowed between two and three years to pass since the patients were first seen, and because at that time in the Clinic most of these patients received a special throat examination and a phenolsulphonphthalein test besides the routine physical examination, blood pressure determination, and urinalysis. Letters of inquiry were sent to the thirty-two patients so selected.

The material which is the subject of this paper can be logically divided into two groups: one consisting of cases of true nephritis with definite signs, and the other of cases of less marked nephritis in which the proper diagnosis was at first uncertain, although the presence of albuminuria and of renal elements in the sediment suggested that kidney disease was the underlying cause of the symptoms which were encountered (Table 1).

Fifteen of the patients were males; eight are known to be dead. On looking over the records it is clear that all but one had a bad prognosis from the moment they were first seen. One patient (Case 8) had had a tonsillectomy performed. Information was not obtainable con-

cerning the effect of this operation on the course of the disease. The patients in Cases 2 and 5 deserve a special note.

Case V. The patient had evidence of mild nephritis which seemed to be markedly exaggerated by a gastro-enterostomy for duodenal ulcer. It is possible that this case was analogous to those following gastro-enterostomy described by Tucker, and that the exacerbation of the kidney disease was derived from duodenal proteose. In any event as the patient died a month after operation, the surgical operation was not a useful preventive measure.

Case II. The patient entered the Clinic in 1918 with a history suggestive of early nephritis. At that time his renal function was nearly normal. The phenolsulphonephthalein excretion was high, there was no fixation of specific gravity, and there was evidence in the sediment of considerable cellular exudation. His tonsils were not removed despite the fact that they were enlarged and draining pus. He returned fifteen months later with signs of marked renal insufficiency, with a diminished phenolsulphonephthalein output, a low fixed specific gravity, and with little in the sediment except rarely a cast. Necropsy showed a typical chronic parenchymatous nephritis. This patient might have been benefited by early tonsillectomy.

The seven patients who are still alive had their tonsils removed, and all except one are strikingly better. The patient in Case 15 gave a history in 1918 of edema and headache dating back about 18 months. This patient has not improved. He finds it difficult to work; his urine contains albumin, and his blood pressure is appreciably higher than it was when he first was examined.

Of course it is unjustifiable to draw conclusions from these data, as the condition in the tonsillectomized patients was more acute and less advanced than in those who were not operated on and died, and would possibly have recovered spontaneously. However the fact remains that the tonsillectomized patients have not progressed in their nephritis and, therefore, the operation was harmless and may have been a good therapeutic and prophylactic measure (Table 2).

The six women with true nephritis are strikingly different from the men, as all but one developed symptoms of kidney disease during pregnancy; two of these died, one, who had been tonsillectomized, dying of nephritis in the eighth month of a later confinement. The other patient

was not operated on and died of rapidly progressing Bright's disease.

One of the three patients who are still alive has been tonsillectomized. Her urine is normal and she is leading an active life, although her blood pressure is still elevated. The other two patients are not improving. Neither has been tonsillectomized. One probably has essential hypertension and the other chronic progressive nephritis.

These five cases illustrate the importance of pregnancy as an etiologic factor in nephritis in young women. It is possible that this type of the disease can be prevented in many cases by early diagnosis. During pregnancy routine urine and blood pressure examinations should be insisted on, and the ordinary rules of hygiene should be enforced. A woman with a history of renal insufficiency during one pregnancy who later becomes pregnant should be watched with special care. Finally, symptoms of impending renal insufficiency should receive immediate treatment.

The sixth patient in this group has been under constant observation for three years and has been treated vigorously with a view toward the prevention of chronic nephritis (Table 3). It appears that the patient has a progressive nephritis which has not been influenced by the removal of diseased tonsils, gallbladder, or appendix. It remains to be seen whether the removal of two teeth which show definite periapical abscesses will be of any benefit.

As a whole, these twenty-one cases are of considerable interest. They illustrate the gravity of nephritis in young persons; the importance of pregnancy as an etiologic factor in women; the fact that all cases are not progressive and that a certain proportion of patients recover. They suggest that there are two definite methods for the possible prevention of chronic nephritis. The first is by surgical removal of sources of renal infection in early cases; the second is by proper medical supervision of pregnant women.

The cases in the second group are less sharply defined. They consist of young persons who presented themselves for examination on account of an indefinite train of symptoms such as headache or backache, recent loss of weight and strength, or a general sensation of lassitude. Physical examination was negative except for a

slight peripheral arteriosclerosis or hypertension. The urine, however, uniformly contained albumin and varying amounts of casts, erythrocytes, or leukocytes. It was impossible to determine at the time these patients were first seen whether they had true nephritis or were merely tired out and needed rest and hygiene. The details of this group are shown in Tables 4 and 5.

The most striking feature of the patients as a whole is the fact that none have so far developed definite signs of chronic nephritis. These cases appear, therefore, to bear much the same relation to Bright's disease that "renal glycosuria" does to diabetes, and afford no evidence with regard to whether chronic progressive nephritis ever begins in such an indefinite fashion. It would be of great interest to follow a larger group of such patients for a much longer time.

A second striking point concerning these patients is that all but one had definitely abnormal tonsils. The closeness of the relationship between septic tonsilitis, albuminuria and the vague symptoms complained of is questionable. However, five of the ten patients with diseased tonsils had tonsillectomies, and five did not. It is interesting that only one of those not operated on (Case 5) should feel well now, while all of the five patients operated on should be normal so far as they know, with the exception of one (Case 6), who has a few red blood corpuscles in his urine.

SUMMARY

This review of the course of a limited number of young persons with symptoms of nephritis over a period of about three years, brings out a few interesting features. In the first place, the material divides itself sharply into cases of true nephritis and into cases in which a diagnosis is impossible. Preventive measures against the development of true nephritis can be logically undertaken. Septic teeth and tonsils undoubtedly play a part in the speed with which the disease develops, and should be removed. In this connection, however, it must be remembered that normal tonsils and teeth should not be sacrificed indiscriminately. Furthermore, the removal of teeth or tonsils from a nephritic patient may be a serious operation and may be followed by an acute exacerbation of the disease with oliguria, and uremia. Therefore, such operations

should not be performed without due consideration and the patients should be prepared by a preoperative course of treatment. The nephritis of pregnancy is such an important etiologic factor in this series as to justify the generalization that all pregnant women should have most careful medical supervision and any signs of impending renal insufficiency should be treated at once, thus probably preventing the development of chronic nephritis in a certain number of cases.

Finally, there are large numbers of young adults with albuminuria with but indefinite symptoms of nephritis who do not develop a rapidly progressive type of kidney disease. The exact relationship of such cases to chronic nephritis is uncertain and requires further study. They offer a possible means for observing the early manifestations of a slowly contracting kidney.

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Note:—See following tables.

Table 1
CASES OF PROBABLE NEPHRITIS IN MALES

Case	Age	Date of entry	Previous history	Present illness	Tonsils	Urinalysis					Subsequent course	
						Systolic blood pressure	Diastolic blood pressure	Albumin	Specific gravity	Casts		
220082	20	1-25-18	Diphtheria, scarlet fever, grippe	Nausea and vomiting 2 years. Shortness of breath a few weeks.	No record	214	148 Large trace	1008 Few	Rare	Rare	5	No Died of nephritis 3 months later.
225274	32	3- 6-18	Diphtheria, tonsillitis, gonorrhea.	Swelling of legs 2 months.	Slightly enlarged; drain pus	120	80 Large amount	1026 Many	0	Rare	60	No Died of nephritis 15 months later.
245887	16	9-10-18	Chronic rheumatism.	General edema 18 months.	Slightly enlarged; mucus plugs	140	86 Large trace	1015 Few	0	Rare	25	No Died 2.5 years later. Cause of death not recorded.
247630	28	10- 3-18	Grippe	Nocturia and headache 3 months.	Slightly enlarged; mucus plugs.	220	110 Large amount	1015 Rare	Moder- ate	0	25	No Died of nephritis 4 months later.
249152	37	10-21-18	Diphtheria, tonsillitis, gonorrhea.	Operation for duodenal ulcer. Developed edema and ascites immediately afterward.	Not enlarged; mucus plugs.	118	68 Large trace	1016 Rare	Moder- ate	Numer- ous	No record	No Died a month later. Cause of death not recorded.
24976	32	8-20-18	Diphtheria	Dyspnea 2 months	Much enlarged; drain pus	240	130 Large amount	1014 0	Numer- ous	Rare	15	No Died 3 weeks later. Cause of death not recorded.
231559	33	5-16-18	Scarlet fever, pneumonia, gonorrhea.	Pain in chest and dyspnea 7 months.	Not enlarged; mucus plugs	110	60 Large amount	1014 Many	Many	No record	No	Died 9 days later. Necropsy showed ulcerative endocarditis and chronic nephritis.
227155	25	4- 5-18	Grippe and gonorrhea	Life insurance examiners diagnosed kidney disease 2 years before. Easily tired, and short of breath for 1 year.	Slightly enlarged; mucus plugs	150	90 Large amount	1015 Few	0	Rare	30	4-10 Date and cause of death not known.

PREVENTABILITY OF CERTAIN CASES OF CHRONIC NEPHRITIS

Table 1 continued

230196	17	5- 2-18	Scarlet fever.	Swelling of face and feet immediately after scarlet fever 3 weeks before.	Much enlarged; drain pus.	152	106	Large amount	1012	Rare	Many	Many	30	1-27 -19	Feels well. Urine reported normal. Works full time. Gained 40 pounds.
236633	8	6-27-18	Whooping cough, scarlet fever	Albuminuria after scarlet fever 8 months before	Slightly enlarged; mucus plugs.	116	78	Trace	1017	0	0	0	No record	7-10 -18	Feels well except for headache while studying. Urine "improved." No record of blood pressure.
242752	30	12- 5-18	Typhoid fever.	Edema and headache for 18 months	Slightly enlarged; drain pus	134	78	Large trace	1018	Few	Rare	Rare	50	12- -18	Works full time. No endurance. Albumin in urine. Blood pressure 145. Not improved.
247192	24	9-30-18	Scarlet fever, Rejected from army for albuminuria. Feels in perfect health.	Absent	166	110	Large trace	1024	Rare	0	0	50	1914	Great improvement in general condition following tonsillectomy. No change in past 3 years. Urine reported unchanged. Works full time. Has gained 10 pounds.	
225017	24	3-16-18	Grippe	High blood pressure for 3 years with intermittent albuminuria. Palpitation on exertion.	Much enlarged; drain pus.	164	100	Trace	1014	0	0	0	60	4-2- -18	Feels well. Urine reported normal. Blood pressure "a little elevated." Works full time.
247286	12	9-30-18	Measles, scarlet fever, tonsillitis.	Sudden and persistent edema following tonsillitis 5 months before.	Slightly enlarged; drain pus.	200	130	Large amount	1020	Many	0	Rare	No record	5-6- -19	Feels well. Urine reported showing very little. Works full time. Gained 20 pounds.
233204	10	6- 1-18	Mumps, measles, tonsillitis.	Edema, nausea, vomiting and convulsions developing 6 weeks before.	Slightly enlarged; mucus plugs.	120	82	Large trace	1016	0	Many	Rare	No record	6-27 -18	Feels well. Urine reported normal. No record of blood pressure. Works full time.

Table 2
CASES OF PROBABLE NEPHRITIS IN FEMALES

Case	Age	Date of entry	Previous history	Illness present	Tonsils	Specific gravity	Albumin	Leukocytes	Tonsillectomy	Subsequent course
229799	27	5-2-18	Tonsillitis and grippie.	Edema and convulsions with pregnancy 3 years before. Epileptiform convulsions since.	140	100	Trace	1017	0	5-10 Died of nephritis in eighth month after examination, 16 months after examination.
230051	32	5-3-18	Scarlet fever and tonsillitis.	Edema and convulsions 18 months before when pregnant; weakness and edema since.	150	116	Large trace	1007	0	50 Died of nephritis 16 months after examination.
236784	32	7-5-18	Tonsillitis	Edema and edema with pregnancy 2 years before. Weak and tired.	200	135	Large trace	1012	0	15 No
222495	26	2-18-18	Negative	Edema with pregnancy which ended 6 weeks before.	125	60	Trace	1022	Few	50 No
176780	21	3-18-18	Frequent tonsillitis.	Edema and headache in fifth month of pregnancy.	154	116	Large amount	1012	Few	55 No
48625	21	10-22-18	Diphtheria, pneumonia, tonsillitis, grippie.	Nervous; tires easily. Lost 15 pounds in 3 months.	130	86	Large trace	1025	Few	50-11-6 General condition improved. Urine contains albumin, blood casts, leukocytes. Blood pressure systolic 148; diastolic 100.

Table 3
COURSE OF PROBABLE NEPHRITES IN PREVENTIVE TREATMENT OF CHRONIC NEPHRITIS

Table 4
CASES OF INDEFINITE NEPHRITIS IN MALES

Case	Age	Previous history	Present illness	Urine	Blood pressure		Albuminuria	Casts	Brythrococytes	Leukocytes	Phenol-phenone-phthalein sulphone	Tonsillectomy	Subsequent course
					Systolic	Diastolic							
242817	31	8-20-18 Tonsillitis and pneumonia.	Backache and nocturia.	Moderately enlarged; drain pus.	115	78 Trace large	1033	Rare	0	Rare	55	No	Complains of languor and backache as before. Urine normal. Blood pressure: systolic 126; diastolic 82.
251907	15	11-26-18 Pneumonia, whooping cough, measles, and tonsillitis.	Chronic nocturia.	Much enlarged; mucus plugs	146	90 Large amount	1016	Rare	0	Rare	50	No	No complaint, but under treatment by chiropractor for kidney trouble and arthritis. Urine contains no albumin. No record of blood pressure.
235280	14	6-18-18 Measles	Recurrent attacks of vomiting and headache.	Much enlarged; mucus plugs.	145	100 Large trace	1017	Rare	Rare	Rare	70	6-18	Feels well. Has not seen doctor since operation.
242023	20	8-28-18 Tonsillitis and grippie.	Nocturnal emissions.	Slightly enlarged; mucus plugs.	150	80 Large trace	1033	0	Rare	Rare	60	8-17	Feels well. No evidence as to urine or blood pressure.
247877	28	10-9-18 Pneumonia and grippie.	Headache and pain in legs.	Slightly enlarged; mucus plugs.	170	80 Large trace	1028	Rare	0	0	55	No	Feels well. Urine normal. No record as to blood pressure.
250501	17	11-8-18 Negative	Lumbar pain.	Right; tags-left, out.	120	60 Large trace	1015	0	Rare	Rare	50	1919	Feels well. Urine contains a few erythrocytes. Blood pressure normal.

PREVENTABILITY OF CERTAIN CASES OF CHRONIC NEPHRITIS

Table 5
CASES OF INDEFINITE NEPHRITIS IN FEMALES

Case	Age	Date of entry	Previous history	Present illness	Tonsils	Albumin	Specific gravity	Casts	Erythrocytes	Leukocytes	Subsequent		
											Urine	Course	
250693	39	11-12-18	Tonsillitis and grippe	Chronic gastric flatulence and nocturia.	Slightly enlarged; mucus plugs.	86	Large trace	1010	0	0	Rare.	60	No change in symptoms. Urine normal. Blood pressure: systolic 130.
231702	28	5-17-18	Negative	Chronic indigestion.	Slightly enlarged; mucus plugs.	120	Large trace	1025	Few	0	Rare	No record	No change in symptoms. Passed through pregnancy. No record of urine or blood pressure.
219177	14	1-15-18	Diphtheria, and tonsillitis	Constant frontal headache.	Slightly enlarged; drain pus.	100	Large trace	1027	0	Rate	Rate	No record	3-23 Feels well. No record of urine or blood pressure. -21
244977	17	9-7-18	Tonsillitis, and grippe.	Attacks of precordial pain for 1 year.	Slightly enlarged; drain pus.	138	70	Trace	1021	0	0	No record	9-11 Feels much better. No record of urine or blood pressure. -18
225716	28	3-28-18	Tonsillitis, pneumonia, grippe.	Backache and headache.	Normal.	110	36	Large trace	1017	0	0	No record	Feels well. No record of urine or blood pressure.

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EDITORIAL

THE CANCER CAMPAIGN

The American Society for the Control of Cancer was founded in New York in May, 1913. Its Board of Directors consists of sixty of the ablest internists, surgeons, and pathologists in this country and Canada, and twenty prominent lay citizens.

The increasing incidence of cancer and the annually increasing death rate from the disease necessitated the organization of such a society for the purpose of disseminating knowledge concerning the symptoms, diagnosis, treatment and prevention of cancer, and to investigate the conditions under which cancer is found.

In establishing an organization with this purpose, the founders believed that a nationwide campaign of public education regarding cancer would save thousands of lives now needlessly sacrificed every year because of ignorance of the warning signs of this disease and delay in seeking competent medical advice and treatment even after the symptoms are recognized.

The society has set aside the first week of

November as National Cancer Week, and during that time an intensive cancer campaign will be waged. In the State of Minnesota the campaign will be conducted under the auspices of the State Medical Association, the State Public Health Association, the State Board of Health, and the State University.

The need of a cancer campaign in the State of Minnesota is obvious, from the statistics compiled by the State Board of Health and recently made public by Doctor Chesley. He states that the deaths from cancer in 1920 exceeded those from tuberculosis, and that while the death rate from tuberculosis dropped from 94 per 100,000 in 1919 to 90 per 100,000 in 1920, the deaths from cancer in 1920 showed an increase of 2 per cent over the deaths from cancer in 1919.

The American Society for the Control of Cancer has long been educating the American public and has prepared a list of facts about cancer that might well be published broadcast.

1. Cancer begins as a small local growth which can often be safely and easily removed in the early stages by competent surgical treatment, or in certain favorable cases by radium, x-ray, or other methods.
2. The beginning of cancer is usually painless; for this reason its onset is doubly insidious, and other danger signals must be looked for and heeded in time.
3. Cancer is not a constitutional or blood disease and there should be no thought of disgrace or hereditary taint associated with it.
4. Cancer is not a contagious disease and there is no danger from living in the same house or from contact with a patient.
5. In ordinary sense, cancer is not inherited. Some authorities believe that there may be inheritance of a certain tendency to the disease, but even this is not clearly established. The disease is so frequent that, by the very law of chance, many cases will occur in some families. Life insurance companies do not regard cancer in the family as a reason for rejecting applicants or increasing premiums.
6. A persistent lump in the breast, or continued abnormal discharge or bleeding, should take a woman to her doctor forthwith. The

increased flowing which frequently occurs at the change of life is always suspicious, as is the return of flowing after it has stopped.

7. Sores, cracks, lacerations, lumps, and ulcers which do not heal, warts, moles, or birthmarks which change color or appearance are danger signs which demand competent medical investigation and treatment.

8. Persistent indigestion in middle life, with loss of weight and change of color, may mean internal cancer.

This knowledge saves lives, and should be brought home to the public, for the plain facts about cancer are not generally known. Cancer theories and cancer cures have their fascination for the curious, but nothing can exceed the usefulness of making what is now known of cancer a commonplace in every household in the country.

EPIDEMIC POLIOMYELITIS IN MINNESOTA 1921*

The poliomyelitis outbreak was first recognized by doctors at Sebeka and Wadena. The cases presented symptoms quite different from those of previous epidemics, the meningeal type rarely seen in previous epidemics predominating. This type is recognized and clearly described in the literature but it was only after many laboratory examinations of spinal fluid that it was proven to the satisfaction of everyone that the outbreak was not meningitis but poliomyelitis.

Another point of difference is that multiple cases have been found in families with history of contact between paralyzed cases. In the 1916 epidemic, multiple cases and history of contact between paralyzed cases was exceedingly rare. In 1916 we included as poliomyelitis cases, those with paralysis and those associated with paralyzed cases who had similar symptoms but not paralysis. Such associated cases had tenderness and weakness of the muscles without definite paralysis or atrophy or lasting muscular impairment and were classed as abortive type.

This year the reports and investigations by

the epidemiologists indicate that the spread and peculiar distribution of poliomyelitis as it is recognized with paralysis may be due to the fact that a very large number of people are infected with poliomyelitis for a short time, but, owing to a degree of immunity or some other circumstance, do not develop paralysis but may transmit infection to children or others who develop paralysis because they have no immunity.

The evidence given in the present epidemic indicates that these mild cases without paralysis, whether associated with paralyzed cases or not, may really be poliomyelitis infections. If this is correct, the peculiar distribution of cases as previously recognized, and the occurrence of isolated paralyzed cases in rural districts is not difficult to explain.

Today, Aug. 26, the crest of the epidemic seems to have passed. The disease has spread peripherally from the epidemic centers in Wadena and Norman Counties and also along the main lines of railway and auto travel. This suggests that the large tourist traffic is a factor in the spread of the infection.

While the fatality rate is practically the same as in 1916, in general the cases are not so severe and reports indicate that compared with the 1916 epidemic, few will suffer permanent paralysis or deformity. Dr. J. C. McKinley of the Neurological Department, University Medical School, has been making a special study of cases with the State Board of Health epidemiologists. His tests with faradic and galvanic current do not give any new information of assistance in diagnosis, but in making a careful neurological study of the so-called abortive cases after the acute symptoms subsided, he demonstrated that certain muscle groups showed atrophy and weakness when compared with the same groups in the unaffected limb indicating that even in these mild cases which would not be classed as abortive poliomyelitis unless associated with paralyzed cases, there was a cord lesion of some degree.

The State Board of Health requests early reports of recognized and suspected cases. Such reports should be sent by telegram or telephone, collect, to the Division of Preventable Diseases, University Campus, Minneapolis. The reports

*Being the remarks brought up to date by Dr. A. J. Chesley, Executive of the Minnesota State Board of Health, at the annual meeting of the State Medical Association in Duluth, August 1921.

of this Division are as follows, and when the epidemic curve is plotted on the basis of date of first symptoms, it will probably coincide with that of the 1916 epidemic.

Month	No.	San.	Coun-	
	Cases	Distr.	ties	Deaths
May	3	2	2	0
June	57	16	8	3
July	167	67	25	20
August	258	135	46	22
September 1 to 23 inclusive	112	72	42	7

To date, cases have been reported from 70 of the 86 counties in the State. It is interesting to note that during the 1916 epidemic practically no cases occurred in Wadena County.

THE VETERAN'S BUREAU

The passage of the Sweet bill by Congress and its approval on August 9, 1921, by the President, changes the name of the Bureau caring for the relief of discharged soldiers and places the activities of the War Risk Insurance and Vocational Training Bureaus under one Bureau directly responsible to the President, to be known as the Veteran's Bureau. Reports from Washington indicate that this Bureau will receive an appropriation amounting to some five hundred million dollars, and it is hoped that much of the criticism of Uncle Sam's care for disabled discharged soldiers will cease. In fairness it should be stated that the federal government has carried out unprecedented activities for the relief of those suffering as a result of the World War. No machinery existed for the conduct of such relief measures and the facilities of the United States Public Health Service were utilized. These activities were transferred to the Bureau of War Risk Insurance on April 19th of this year by order of the Secretary of the Treasury.

Advantage has been taken of the government, either consciously or subconsciously, in a large percentage of the claims presented. The psychology of the discharged soldier as regards compensation is much the same as in the case of the personal injury suit. Elated by his return to home shores and eager for his discharge from service the soldier was only too

ready to declare himself in perfect health. This return to his former more or less hum-drum life, either at his former occupation or in search of a job, put a strain on the average man's nervous system. He felt he was not the same man he was before service and that his service was responsible for the change. Some acquaintance was receiving a monthly check from the government; why shouldn't he?

It is a question whether it would not have been a better policy all around to have made an estimate of the soldier's disability, either upon discharge or as soon after discharge as practicable, and to have made a cash settlement. The financial question would thus have been settled and the question of the payment of monthly checks of smaller or larger denomination in the future, possibly for life, would have been removed. The discharged soldier could then have received medical care where he chose, and would have had means for making himself self-supporting. From a psychological standpoint the situation would have been the same as when a personal injury suit is settled. The soldier's mind would have been diverted from his physical condition and from apprehension of the future, and he could have better applied himself to the earning of his livelihood. The application of such a policy at this late date would not be impossible and would reduce the immense expense entailed in the administration of the Veteran's Bureau, no end of which is in view.

In the Veteran's Bureau we have a good example of the operation of state medicine. The relation of patient to doctor is wrong. In many cases the examining physician for the Veteran's Bureau is confronted by an absence of definite objective symptoms and he is at a loss to come to a conclusion as to the presence of a definite disability. Subjective symptoms are of very great value in the estimation of a case and in this class of cases these are unreliable.

It is a question how many of the difficulties encountered in the administration of the activities for the care of disabled soldiers will be removed by the change in the name of the Bureau. Would not an entire change in policy be of much more value?

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

TRI-STATE DISTRICT MEDICAL SOCIETY

The Tri-State District Medical Society which covers a territory including the entire states of Iowa, Illinois and Wisconsin extends to the physicians of Minnesota a hearty invitation to attend its annual assembly which is to be held at Milwaukee, Wisconsin, November 14th, 15th, 16th and 17th. The following is a partial list of the members of the profession who have accepted places on the tentative program:

Dr. George Armstrong, Prof. of Surgery, Faculty, McGill University, Montreal, Quebec.

"Physiology and Embryology of Colonic Stasis."

Commander William Seaman Bainbridge, United States Navy, Medical Department, New York, N. Y.

"The Thyroid Gland and Intestinal Stasis."

Dr. Arthur Dean Bevan, Prof. of Surgery, and Head of Surgical Department, Rush Medical College, Chicago, Illinois.

"Tumors of the Breast."

Dr. Hugh Cabot, Dean and Prof. of Surgery, University of Michigan, Medical School, Ann Arbor, Michigan.

"A Neglected Factor in Surgical Infections."

Dr. Henry A. Christian, Hersey Prof. of the Theory and Practice of Physic, Harvard University, School of Medicine, Boston, Mass.

"The Relation that exists between Hypertension, Myocarditis, and Nephritis."

Dr. John G. Clark, Prof. of Gynecology, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

"The Anatomic Principles underlying Plastic Operations."

Dr. Charles P. Emerson, Dean and Prof. of Medicine, Indiana University, School of Medicine, Indianapolis, Ind.

"The Treatment of Chronic Nephritis."

Captain A. M. Fauntleroy, M. C., U. S. Naval Hospital, New York City.

"Hemorrhoids and Hemorrhoidectomies."

Dr. Charles H. Frazier, Prof. of Neurosurgery, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

"The Problem of Intra Cranial Surgery relating to Brain Tumors."

Dr. J. Claxton Gittings, Prof. of Pediatrics, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

"A Disease in Childhood which commonly is unrecognized."

Dr. William P. Graves, Prof. of Gynecology, Harvard University, School of Medicine, Boston, Mass.

"Role of Ovary in Pelvic Surgery."

Professor H. C. Jacobaeus, Serafiner Hospital, Stockholm, Sweden.

"The Thoracoscopy and its practical use."

Dr. Warfield T. Longcope, Bard Prof. of the Practice of Medicine, Columbia University, College of Physicians and Surgeons, New York, N. Y.

"The Affect of Occlusion of the Coronary Arteries on the Heart's Action and its Relationship to Angina Pectoris."

Dr. John P. Lord, Prof. of Orthopedic Surgery, University of Nebraska, School of Medicine, Omaha, Nebraska.

"Grafts of Whole Substance Bone."

Dr. Willis F. Manges, Prof. of Roentgenology, Jefferson Medical College, Philadelphia, Pa.

"Foreign Bodies in the Air Passages from the Viewpoint of the Roentgenologist."

Dr. Franklin Martin, Chicago, Illinois.

"The Program of the American College of Surgeons."

Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

"The Surgical Aspects of Diverticulitis of the Colon" (lantern slides).

Dr. Thomas McCrae, Prof. of Medicine, Jefferson Medical College, Philadelphia, Pa.

"Fundamentals in Medicine."

Dr. Joseph A. Pettit, Prof. of Surgery, University of Oregon, School of Medicine, Portland, Oregon.

"Surgical Aspects of Uterine Malposition."

Dr. Reginald H. Sayre, Prof. of Orthopedic Surgery, University and Bellevue Hospital, Medical College, New York, N. Y.

"Errors in Orthopaedic Diagnosis."

Dr. Alfred Stengel, Prof. of Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pa.

"Type and Treatment of Severe Anemia."

Dr. J. Bentley Squier, Prof. of Urology, Columbia University, College of Physicians and Surgeons, New York, N. Y.

Dr. Frederick Tice, Prof. of Clinical Medicine, University of Illinois, College of Medicine, Chicago, Illinois.

Dr. Henry Enos Tuley, Dean and Prof. of Pediatrics, University of Louisville, School of Medicine, Louisville, Ky.

"Some Aids to Diagnosis in Medicine."

Professor De Quervain, Berne, Switzerland.

The Central Minnesota Medical Association held their regular summer picnic meeting at Green Lake on Thursday, September 1st. An interesting scientific program was presented during the afternoon. Papers were presented by Drs. Verne S. Cabot and G. R. Matchan, of Minneapolis; Drs. B. J. Branton and H. V. Hanson, of Willmar, and Dr. S. C. Scofield, of Benson.

NEWS OF THE HOSPITALS

OF GENERAL INTEREST

The new Northern Pacific Hospital, St. Paul, which is one of the most complete in the Northwest, and occupies an entire city block, is now open. The building is fireproof throughout and is composed of four floors. The ground floor contains the main kitchen and all necessary supply rooms, the administration staff, x-ray, eye, ear, nose and throat department, laboratory and drug dispensary, and the large main dining room. The second floor is known as the medical floor. The third floor, which is the surgical floor, is used exclusively for patients and contains a complete suite of operating rooms. Both the second and third floors have large wards, besides a number of single rooms. There are large sun parlors leading off each ward. The fourth floor is entirely made up of single rooms for special cases. Dr. A. W. Ide, who has been chief surgeon of the association hospital at Brainerd, will be chief surgeon of the new hospital. A school of nursing will be operated in connection with the institution, which school has been affiliated with the University of Minnesota.

With the removal of the Northern Pacific Hospital to St. Paul, the Northern Pacific Beneficial Association has opened offices in the First National Bank Building, of Brainerd, with Dr. B. I. Derauf in charge. The Association has made arrangements with the Northwestern Hospital and with St. Joseph's Hospital at Brainerd to care for employees in need of emergency hospital service.

Dr. S. A. Slater, superintendent of the Southwestern Minnesota Sanatorium, of Worthington, has been chosen president of the Minnesota Tuberculosis Association. Dr. Slater has recently published the first report of the Sanatorium, which report comprises a sixteen page pamphlet.

OBITUARY

C. S. Reimstad, M. D., Brainerd, Minn. Born in Norway, June 26, 1867. Graduate of University of Minnesota. Died August 28, 1921.

Elmer E. Barrett, M. D., Glencoe, Minn. Born in New Hampshire, August 10, 1862. Graduate of Cushing Academy, Ashburnham, Mass. in 1883. Died August 9, 1921.

Dr. A. H. Kegel, of the Mayo Clinic, has moved to Chicago, where he will open an office for the practice of surgery.

Dr. H. T. Sherman, of Franklin, has purchased a hotel building at that place and will convert it into a hospital in the near future.

Roosevelt, Minnesota, is without a physician. This is a very prosperous community and should be a splendid opening for a young physician.

Dr. H. G. Blanchard, of Waseca, who has been spending the past year in California, will return to resume his practice with Dr. Henry Miller.

Dr. J. A. Roy, who left Argyle about a year ago to practice medicine at Stephen, has returned to Argyle and will resume his practice at that place.

Dr. Moses Barron, of Minneapolis, announces the opening of a clinical, chemical and pathological laboratory under his supervision at 309 Physicians and Surgeons Building.

Dr. O. F. Mellby, of Thief River Falls, has returned from Chicago where he spent several weeks in the study of diseases of the eye, ear, nose and throat, in which he will specialize in the future.

Dr. Verne S. Cabot, of Drs. Willson, Cabot & Wohlrabe, 323 La Salle Bldg., Minneapolis, sailed for Vienna on September 10th, where he will spend the winter doing special work in surgery.

Dr. Ellsworth Johnson, of Windom, who has been doing hospital work in New York City for the past two years, has returned and will be associated in the practice of his profession with Dr. Sogge, of that place.

Dr. L. N. Klove, of Chokio, who has been practicing medicine at that place for the past three years, has moved to Kensington, Minnesota, where he will reside in the future. The departure of Dr. Klove leaves Chokio without a physician.

Dr. J. L. Adams, of Morgan, who sold his practice the first of the year to Dr. J. L. Haskins and moved to California, has returned to Minnesota and has purchased the practice of Dr. C. C. Walker of Lamberston. Dr. Walker is locating at Raymond.

Dr. F. A. Drake, of Lanesboro, has taken Dr. Rolf F. Nannestad, of Albert Lea, into partnership. Dr. Nannestad is a graduate of the University of Minnesota Medical School, and since his graduation he has been an interne at various large hospitals.

Drs. F. H. Dubbe, O. C. Strickler and W. J. Von Bank, of New Ulm, have formed a clinic which will occupy the entire second floor of the Farmers and Merchants State Bank Building. Drs. Dubbe and Strickler will devote their time to medicine and

surgery, while Dr. VonBank will have charge of the dental department of the clinic.

Dr. Shedlov, of Gully, is temporarily in charge of Dr. A. W. Swedenburg's practice at Thief River Falls. Dr. Swedenburg is in Minneapolis where he is taking a post-graduate course, after the completion of which he will return to Thief River Falls.

Dr. F. J. Brabec, of Fergus Falls, has become associated with Dr. H. M. Juergens, in the practice of medicine and surgery. Dr. Juergens is a graduate of the University of Minnesota Medical School and has served in various hospitals since his graduation.

Dr. W. S. Broker, who has been superintendent of the Otter Tail County Sanatorium at Battle Lake for several months, has received an appointment to the Public Health Service at Minneapolis. Dr. W. Berry, of Massachusetts, will succeed Dr. Broker at Battle Lake.

Dr. Frederick E. B. Foley is associated with the Miller Clinic of St. Paul, as urologist. After graduating from the Johns Hopkins Medical School in 1918 he spent another year under Dr. McCallum doing pathology. The following year he spent in the Surgical Research Laboratory of the Harvard Medical School, after which he was a house officer in the Peter Bent Brigham Hospital under Dr. Cushing.

Our national Congress this summer amended the Volstead act in such a way that "only spirituous and vinous liquor may be prescribed for medicinal purposes." This means that beer cannot be prescribed. Vinous liquor containing over 24 per cent alcohol is also prohibited. Also, physicians are not permitted to prescribe more than a quart of vinous liquor or any liquor that contains more than one half pint of alcohol for any person within the ten-day period. A limitation of 100 prescriptions for any physician for each three months is also imposed. Because of a difference of opinion between the Senate and House regarding the right of search on warrant the bill was laid over until the reassembling of Congress, but Secretary Mellon has refused to issue regulations, allowing the prescribing of beer by physicians. It is likely that the amendment will be passed soon after the opening of Congress.

PROCEEDINGS OF THE MINNESOTA ACADEMY OF MEDICINE

Cases Presented at the Meeting Held May 1, 1921

Dr. E. L. Tuohy, Duluth, Minn. Specimen of lung showing massive collapse of the lower lobe; death due to massive collapse occurring on both sides.

Male, aged 48. Family history negative.

Past History—In 1915 an acute attack, said to have been appendicitis. Later examination indicated to the clinicians that he had in addition chronic cholecystitis. More or less indigestion, supposed to be of that source, until December 1920, when he had a decisive duodenal hemorrhage. After recovery with medical treatment, the roentgen evidence showed definite duodenal defect—deep, and indicating penetration. Symptoms continued despite reasonable treatment.

Pre-operative diagnosis—Chronic appendicitis; duodenal ulcer; cholecystitis.

Operation—Dr. T. L. Chapman, April 26, 1921. Gas-oxygen anesthetic. The appendix was found massed in adhesions in the right iliac fossa; a large duodenal ulcer on the upper and posterior wall of the duodenum, with some external adhesions in the region of the gall-bladder. The appendix was removed, the ulcer area turned in, with continuous catgut stitches, and a posterior gastroenterostomy done. (He took the anesthetic badly, and artificial respiration had to be resorted to near the end. There was considerable mucus in the throat.)

Convalescence—Immediately stormy, with early moderate rise of temperature, dyspnea, rapid increase in pulse rate, mounting finally to 160, and finally uncountable. On the second day, auscultation of the lungs showed marked tubular breathing over both bases posteriorly; on the following day rales were added. There was frothy mucous expectoration, quite scant; never any blood. Patient was extremely irritable, restless and fearful. Stimulation of various kinds had only temporary benefit. Dullness, approaching flatness, supervened over both bases.

Pre-autopsy Diagnosis—Massive collapse, bilateral, of lungs.

Autopsy—Partial autopsy permitted. Abdominal condition perfectly clean. Lungs removed through opening made in the diaphragm. A large portion of the lower lobe on each side perfectly collapsed. On section, no air, blood, or pus.

Discussion—This condition of massive collapse is discussed chiefly in the literature of the English physicians and surgeons. It was first considered to follow post-operative laparotomy.

Elliott & Dingley (London Lancet, p. 1305, May 9, 1914) summarized and called attention to the original description of Dr. W. Pasteur. These men



reported in all, 11 cases, drawing attention to the clinical resemblance to post-operative lobar pneumonia, and concluding that the condition was occasioned by muco-purulent plugging of considerable sized bronchi. Fixation of the diaphragm and various mechanical physiological disturbances were analyzed.

Chapter IV, Oxford Series, p. 127, article by Sir John Rose Bradford, draws attention to the prevalence of this condition as shown in association with various war wounds, not necessarily penetrating nor severe, and wide in their original distribution. In a word, calling attention to this traumatic and post-operative complication, and giving one the impression that it follows certain of these states very much as acute dilatation of the stomach or acute ileus occurs.

The condition is usually not fatal, and this patient probably died because it was bilateral.

Dr. Wm. Lerche, St. Paul:

Female, aged 34 years. Four times between 1910 and 1919 large clusters of lymph nodes were removed by me from her left supra-clavicular space. In 1919 large masses of lymph nodes were removed from her right supra-clavicular space.

The present trouble began two months ago with gradually increasing hoarseness and dyspnea on slight exertion. Dyspnea worse when she lies on the right side. Dullness over upper half of right thorax extending to the left of the sternum. Leucocyte count 11,000 to 12,000.

Radiogram shows large mediastinal tumor extending into the right pleural cavity.

Anterior mediastinotomy with removal of part of tumor. Microscopic section shows a form of Hodgkin's disease classified as number 3 by Ziegler.

Since 1916 we have three different types of glands removed from this patient. It is not easy to make a differential diagnosis between these mediastinal affections.

Case 2. Posterior mediastinal abscess. Male age 30. The patient had had a retropharyngeal abscess, which had been incised by his physician. Later high temperature, 104°. Examination revealed emphysema of the neck, and radiogram showed a large mediastinal shadow. The posterior mediastinum was opened through an incision along the anterior border of the right sternocleidomastoid muscle. Drainage tube extended to 5½ inches below top of sternum. Leucocyte count about 15,000.

Dr. J. C. Litzenberg, Minneapolis:

1. I would like to report a case of myoma in pregnancy. Myomectomy in the pregnant uterus is not necessary in all cases. The location of the fibroid has more to do with the question as to whether or not an operation should be done. This patient I had known for several years before her marriage. She

had consulted me about 3 years before marriage and in the course of the examination I found small fibroids in the uterus, one about the size of an egg and another about the size of a walnut. Three years later she married and became pregnant. When she came to my office at this time I found the fibroid had grown greatly in size, filling about half the pelvis, and located in such a manner that she would not be able to give birth to the baby. She was loath to have the uterus emptied and we finally decided to perform a myomectomy. The large fibroid was difficult to get at; it was very low in the pelvis and very low in the uterus. We operated very promptly hoping we would be able to operate without abortion. Four other fibroids were removed at the same time.

The operation was done three weeks ago, and for a while the patient had some pains. She has not aborted, however; three weeks have passed by and I think we can call this a successful operation.

2. The other case I have to report is simply a curiosity. The case was referred to me for routine examination of the pelvis. The woman, about 42 years of age, had never menstruated. On examination she was found to have no cervix, the vagina being simply a blind sac. No evidence of cervix on speculum examination either. It is supposed that she has no uterus; at least we felt that she had no functioning uterus because she is a woman 42 years of age and if the uterus had been functioning naturally we would expect to find a uterus distended with menstrual blood. She has the usual sexual feelings and possesses all the maternal instincts for she has adopted and raised three children.

Dr. A. E. Benjamin, Minneapolis:

1. I would like to report a case similar to Dr. Litzenberg's first one. I operated recently on a doctor's wife who had had several miscarriages and abortions. She would go 2 or 3 months and abort, and had on one occasion gone on to 7 months. She was then about 35 years of age and wished very much to have this child. She was 7 months along when I saw her, and was beginning to have some pains. On examination she was found to have a fibroid low down in the uterus on the right side and very tender. Inasmuch as she had gone 7 months we decided to operate. We found a fibroid as large as my fist, soft and somewhat adherent. We removed this very carefully and she went on to term and had the child.

2. Strange to say I have another case at the present time similar to Dr. Litzenberg's second case. General Hospital case, young woman 26 years of age, has never menstruated. External genitalia practically normal, also cervix and os, but no uterus excepting a small canal 1½ inches in length. She has no ovaries that we can make out. There is very little growth of hair upon the pubes and very little under the arms. She has the build of a male.

Dr. S. Marx White, Minneapolis:

I would like to report a series of cases of considerable interest; the series of paratyphoid cases occurring among the students at the University of Minnesota.

In all there were 86 cases reported. When the epidemic was discovered an epidemiological investigation by the State Board of Health brought out the fact that all (except 4 cases) had had dinner at the Minnesota Union and had had milk on the 13th of March. There were very definite gastrointestinal symptoms beginning within two or three days after ingestion of the milk. Some cases were seen in the students' health service. Blood cultures were not made before the appearance of rose spots. After about 10 rays of these indefinite gastrointestinal symptoms several cases almost simultaneous showed rose spots. The Widal reactions began to show positive for paratyphoid and not typhoid. Cultures were made from the blood after the appearance of rose spots in some of the cases, but as bacilli disappear early from the blood in paratyphoid only one culture was successful. In nearly 30 cases cultures were made from stool and bacillus paratyphosus beta found. Thirty of the cases went to hospitals. The remainder of the cases were scattered as the students had gone into different parts of the state for vacation. Two deaths were reported. One autopsy was made and showed extensive lesions in the colon, more abundant in the cecum and a few small ulcers in the ileum. The other student who died had gone to his home in the southern part of the state and on development of symptoms was thought to have appendicitis, was operated and died subsequently.

The clinical features were interesting. The general outline was that of a mild type of typhoid. The very remarkable and extensive distribution of the rose spots was unusual. In many cases they were found on the thighs, arms, and wrists, as well as over the trunk. Four cases showed rose spots on the face. One boy had a tremendous papular eruption over the back. Enlargement of the spleen was found in only 2 cases out of 14 we had at the University Hospital. Otitis media developed in 2. Nervous symptoms were not marked. One patient had rather toxic nervous symptoms typical of typhoid. Other than that the course was uneventful. One case still shows symptoms suggestive of the so-called typhoid spine. There was a singular absence of complications.

Dr. R. E. Farr, Minneapolis:

I would like to refer to one of these cases that came to St. Mary's Hospital. He had much the same symptoms that Dr. White mentions and it is very interesting to note that a physician from South Dakota, when he saw one of these boys, asked me what intestinal influenza was. This apparently was what he used to call typhoid.

One of these boys had a double otitis media and

was the only one who was severely ill. About the end of the second week with the double otitis he developed severe abdominal cramps during the night. He was doubled up, face pale, sweating, and we were quite alarmed about him. He had very slight rigidity in the region of the appendix and no change in the pulse rate. The leucocyte count which had been around 2,500 jumped to about 8,000 early in the morning and at noon was 7,000. I operated on him under local anesthesia at 1 o'clock. He had a large thickened appendix which I thought might be a mild acute appendix. I also thought of perforation and went over the intestinal tract from one end to the other and found the intestines normal. He showed no pathology along the intestinal tract. He surely had a crop of "rose spots."

Dr. Braasch, of Rochester, read a thesis entitled "Atrophic Pyelonephritis." Lantern slides were shown.

DISCUSSION

DR. HEAD: I would like to ask Dr. Braasch whether there is a large amount of pus in the urine or whether in general the amount of pus is small. Does the appearance of the urine suggest a large deposit of pus as it sedimentates?

DR. BRAASCH: The rule is to find considerable pus but of these that were atrophic the majority of them had only a moderate number of cells—10 to 12—to the field. We had 3 cases of perfectly negative urine. Three things are taken into consideration in making a diagnosis: 1—history of unilateral pain, frequent dysuria, temperature and cells; 2—absence of function; 3—the pyelogram.

DR. FARR: I was very much interested in Dr. Braasch's paper and want to ask him in what percentage of cases he would find a dead kidney large and perhaps full of pus. I had a case of a woman aged 68 with infection of the left kidney with practically complete loss of function of that organ. On the right there was hyper-function, and the ureterogram showed no shadow of the kidney substance. She had a kidney twice the size of a normal kidney and full of pus. In what percentage of cases have you found a large kidney rather than this atrophic type?

DR. BRAASCH: I dare say that error could easily be made in diagnosis. I recall possibly half a dozen similar instances. The main thing is to make a diagnosis of surgical kidney.

DR. TUOHY: Were the phenolsulphonephthalein injections made intravenously?

DR. BRAASCH: Yes.

DR. DENNIS: Do you end the experiment in 15 minutes?

DR. BRAASCH: Usually.

Dr. Geo. D. Head, of Minneapolis, read a paper entitled "Acute Arteritis complicating Pneumonia."

HARRY P. RITCHIE, Secretary.

NEW AND NON-OFFICIAL REMEDIES

The following additional articles were accepted during June:

Lederle Antitoxin Laboratories:

Pollen Antigen-Lederle (Ragweed)

Pollen Antigen-Lederle (Timothy)

During July the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies:

The Abbott Laboratories:

Argyn.

Hoffman LaRoche Chemical Works:

Papaverine Sulphate Tablets-Roche.

Nonproprietary Articles:

Casein.

During July the following articles have been accepted:

Beebe Laboratories, Inc.:

Beebe Protein Milk.

Beebe Modified Buttermilk.

PROPAGANDA FOR REFORM

Mode of Action of Some Common Laxatives.—Calomel has been currently represented to act by promoting the secretion and retarding absorption, so that an accumulation of the abundant fluid and the consequent evacuation of the semisolid contents ensues. However, a recent investigation in the Pharmacologic Institute in the University at Utrecht by Van der Willigen indicates that absorption in the gastro-intestinal canal is not interfered with in the presence of calomel, and that the drug functions by promoting more vigorous movements of the small and large intestine whereby the contents are propelled so rapidly toward the rectum that absorption and the production of formed stools cannot take place. Similarly, Van de Willigen found that phenolphthalein does not retard absorption nor produce secretions in undue quantities, but acts by promoting peristalsis so that the fluid contents are driven into the proximal colon more rapidly than under normal circumstances. It has been claimed that the laxative action of sulphur is due to the formation of sulphurous acid, which causes irritation of the bowels. In contrast with this is the finding of hydrogen sulphid in the lower small intestine and upper large bowel after the ingestion of sulphur. Van der Willigen believes that ordinarily the chyme which discharges from the small intestine into the colon is soon concentrated there by the rapid absorption of water, but that when hydrogen sulphid is formed from the ingestion of sulphur, it promotes the more rapid passage of the semifluid contents beyond the colon, so that the usual concentration cannot take place (Jour. A. M. A., Aug. 6, 1921, p. 468).

Distribution of Vitamins.—Our knowledge of the

accessory food factors, commonly spoken of as vitamins, is so recent, and the exact nature of these factors so enveloped in mystery, that it was inevitable that the public's lack of knowledge on the subject should be capitalized. It, therefore, is not surprising that there are on the market a number of "patent medicines" that are sold under the claim that they are rich in vitamins—although their exploiters fail to explain which, if any, of the three food factors their products contain. The renaissance of yeast as a therapeutic agent has given an opportunity to the manufacturers of this product of unduly stressing the fact that yeast is rich in antineuritic vitamin (water soluble B). Because milk and certain milk products are rich in the fat soluble A factor, the dairy interests would apparently have the public believe that this particular vitamin is to be obtained only from their products. The truth is, that the accessory food factors are so well distributed throughout the dietary of modern man that, generally speaking, the individual who uses ordinary judgment in selecting his food is in no danger of suffering from a deficiency of any of these three factors (Jour. A. M. A., Aug. 13, 1921, p. 561).

Bacillus Acidophilus.—Metchnikoff, who believed that poisons of putrefactive origin were detrimental to human well being, attempted to modify the intestinal flora by the administration of viable lactic acid bacilli in the form of *Bacillus bulgaricus*. The best scientific evidence indicates, however, that this bacillus is incapable of accommodating itself to intestinal conditions. On the other hand, it has been shown that a related bacillus, *Bacillus acidophilus*, which is actually of intestinal derivation, lends itself to implantation in the intestinal canal. Further, abundant growth of this bacillus may be secured by appropriate change in the diet, namely, by the administration of lactose (milk sugar) and dextrins. That this change in the flora may thus be produced is explained by the normal presence, though in small number, of *B. acidophilus* in the intestine which requires only the stimulus of a favorable medium. Whether there are special conditions under which the implantation of *Bacillus acidophilus* is beneficial remains to be learned, and the findings should not be hastily translated into a new sour milk cult (Jour. A. M. A., Aug. 20, 1921, p. 626).

The Schick Test.—The Schick test for determining the degree of immunity to diphtheria is no longer a novelty. Many of those giving a positive reaction have been successfully immunized in the face of impending danger. Park of the New York Board of Health asserts that a negative Schick test in cases in which there is active immunity, either natural or acquired, when the toxin used and the technic employed have been suitable, gives an almost complete security from diphtheritic disease, not only for the immediate time but also for the future (Jour. A. M. A., Aug. 27, 1921, p. 708).

Minnesota State Medical Association

ANNUAL MEETING
August 24, 25 and 26, 1921

DULUTH, MINNESOTA

**MINNESOTA STATE MEDICAL ASSOCIATION
MINUTES OF THE FIFTY-THIRD ANNUAL
MEETING HELD AT DULUTH, AU-
GUST 24, 25 and 26, 1921**

PROCEEDINGS OF THE HOUSE OF DELEGATES

FIRST SESSION—WEDNESDAY, AUGUST 24, 1921

The House of Delegates met in the sun parlor of the Spalding Hotel, and was called to order by the President, Dr. C. Eugene Riggs, St. Paul, at 2 p. m., who said: The first order of business is the appointment of a committee to pass on the credentials of the delegates. The Chair will appoint as committee on credentials Drs. R. J. Hill, F. J. Savage, and O. W. Parker.

While this committee is investigating the delegates we will proceed with our business, because we have enough matters to occupy our attention this afternoon.

We will listen to the reading of the minutes of the last meeting.

THE SECRETARY: The minutes of the last annual session were published in full in the December issue of *MINNESOTA MEDICINE*. Is it the wish of the House of Delegates that these minutes be read?

DR. E. M. CLAY: I move that the reading of the minutes of the last annual session be dispensed with.

Seconded by Dr. G. S. Wattam and carried.

THE PRESIDENT: A motion is in order to accept them without being read.

DR. J. G. CROSS: I think some of the committees mentioned in the minutes of the House of Delegates last year can be read later on, if necessary, by a special motion, even though the minutes have been accepted.

THE PRESIDENT: Yes, you can do that.

DR. WATTAM: I move that the minutes be accepted.

Seconded and carried.

THE PRESIDENT: I desire to announce that a quorum is present, the House is organized, and now ready for the transaction of its business.

The next order will be the Report of the Council.

The Secretary read the report of the Council as follows:

REPORT OF THE COUNCIL

August 24, 1921

The Council met at 10 a. m., and a committee was appointed which audited the report of the Treasurer:

It was decided by the Council that in the future it would be consistent with the practice in other associations for the Association to care for the local accommodations for visitors and for attendance at the banquet, but not to offer to provide transportation for such visitors.

Action on the request of Dr. J. J. Ratcliffe, Secretary of the Aitkin County Society, that their charter be revoked, was deferred and the matter was referred to the Councilor of the Second District, Dr. Millspaugh.

The Council recommended the continuation of the Committee on Collection and Publication of the Papers of the late Dr. Tomlinson for another year, as requested by the chairman of that committee, Dr. A. F. Schmitt.

The report of the Editing and Publishing Committee of the Journal was adopted and it was moved and seconded that the publishing and editing forces be congratulated on the financial showing of the year.

Proposition for the assumption of the collection of bad accounts by the State Association office was submitted by the executive secretary, Mr. J. R. Bruce, and it was moved that Mr. Bruce put the proposition in writing and the question be brought up at the adjourned meeting of the Council to be held Friday morning at 9 o'clock.

The reports of the Secretary and Attorneys were read and adopted.

The Council has one recommendation to make to the House of Delegates, that is, that the Reference Committee System outlined in the Report of 1920 before the House of Delegates by Dr. George D. Head, Chairman of the Committee, be adopted. This system will be presented in the final report of this committee at this session of the House of Delegates.

THE PRESIDENT: The report of the Council is before you, as read by the Secretary.

DR. WATTAM: I move that the report be accepted and adopted.

Seconded and carried.

THE PRESIDENT: The next order of business is the report of the Secretary.

The Secretary presented his report as follows:

REPORT OF THE SECRETARY

The Minnesota State Medical Association opens its Fifty-third annual meeting with the largest paid membership in the history of the Association, having

gained 101 paid memberships during the year making a total of 1644.

Acting upon a recommendation made at the 1920 meeting, the Council arranged for an executive secretary to relieve the general secretary of a very large portion of the detail work in connection with the activities of the organization.

The new arrangement of combining the activities of the office of the secretary and the management of the journal has now been in operation almost eight months. The details of the work of both the Association and MINNESOTA MEDICINE have been carried out in the office of the executive secretary, Mr. J. R. Bruce. In my judgment the work has been handled in a very satisfactory manner.

The office of the executive secretary encountered many difficulties during the early part of the year, as no one in connection with the office was, prior to January 1st, 1921, familiar with the details of any of the work connected with the Association activities or of MINNESOTA MEDICINE editorial work.

A card index of the membership has been prepared which provides a very complete record of the membership of each individual. This new system eliminates the transcribing of the total membership of the societies each year.

This year the Minnesota legislature was in session, which required considerable activity on the part of the Committee on Public Policy and Legislation. It was undoubtedly due to the very efficient work of this Committee that no unfavorable legislation was enacted during the session. The details of the work will be explained in the report of the chairman.

The entire membership of the Association has been circularized six times in connection with the activities of this committee and upon other subjects. This is only the beginning of what is planned as constructive work in increasing the value of the Association to its members and adding to its membership. It is believed that keeping in close touch with the Association members, not only at convention time, but throughout the year serves to enliven the interest of each member of his Association and keeps him informed of the activities of the organization in his behalf.

It is planned to undertake a systematic method for increasing the Association membership by obtaining the names of desirable physicians from the officers of component societies and bringing pressure to bear upon these men to affiliate with their local societies. The cooperation of each individual member in this work will be very greatly appreciated and of valuable assistance.

Our membership by component societies as of record August 18th, 1921, is as follows:

Aitkin County	7
Blue Earth County	26
Blue Earth Valley	23
Camp Release	47
Carlton County	8
Central Minnesota District	11
Chisago-Pine	15
Clay-Becker	24
Dodge County	8
Freeborn County	15
Goodhue County	13
Hennepin County	386
Houston-Fillmore	24
Kandiyohi-Swift	15
Lyons-Lincoln	17
McLeod County	10
Meeker County	12
Mower County	26
Nicollet-LeSueur	18

Olmsted County	100
Park Region	42
Ramsey County	273
Redwood-Brown	19
Red River Valley	54
Rice County	22
St. Louis County	140
Scott-Carver	16
Southwestern Minnesota	56
Stearns-Benton	39
Steele County	14
Upper Mississippi	69
Wabasha County	13
Waseca County	9
Washington County	13
Watowwan County	8
West Central Minnesota	17
Winona County	22
Wright County	13

Total 1644

The secretary reports receipts from the above societies from

Oct. 1, 1920, to Aug. 18, 1921 \$8,220.00

Back Dues 224.00

One advance payment of 1922 dues.. 5.00

Total \$8,449.00

The total receipts of the Association from September 18, 1920, to August 18, 1921, from all sources, amounted to \$16,319.67. The total disbursements of the Association for the same period amounted to \$14,263.49. Leaving a net surplus for the year of \$2,056.18.

It is believed that the executive secretary's office is in a position to add to its usefulness to the Association by opening a department for the collection of bad accounts, charging a fee only sufficient to cover the cost of the services. If this suggestion is approved by the Council and House of Delegates we believe that this work can be very satisfactorily handled, and that it should result in considerable saving to those members availing themselves of this facility.

THE PRESIDENT: What is your pleasure with reference to this report of the Secretary? The Secretary makes the suggestion that after the House of Delegates is organized, these reports can be accepted and adopted, and perhaps that is the best mode of procedure.

Is the Committee on Credentials ready to make its report?

DR. R. J. HILL: There are two or three questions your Committee want to inquire about. We have three representatives here apparently from Olmstead county. Dr. Witherstine is not represented. This county is entitled to two delegates. There is but one delegate assigned to this county, Dr. Witherstine.

In regard to Red River Valley County, H. E. Nelson takes the place of O. F. Melby. Dr. Nelson is the alternate of Dr. Melby, who is absent. The Secretary recommends that Dr. Nelson be given the proper credentials so that he can be seated. On this list only one delegate has been assigned to represent Olmstead county, although the Secretary informs me they are entitled to two delegates. (Dr. Hill then read a list of delegates who had registered and were entitled to be seated as delegates). Dr. A. H. Logan and Dr. H. G. Giffin, of Olmstead county, were seated as delegates.

THE PRESIDENT: You have heard the report of the Committee on Credentials. What is the pleasure of the House?

DR. J. C. ROTHENBURG: I would like to say that I am a delegate from the new Redwood-Brown

County Medical Society, and forgot to bring my credentials.

THE PRESIDENT: A motion with reference to this matter will clear it up nicely.

It was moved and seconded that Dr. Rothenburg be seated. Carried.

THE PRESIDENT: The report of the Treasurer is next in order.

REPORT OF TREASURER

Annual statement of the Treasurer covering period, September 20, 1920, to August 20, 1921

RECEIPTS

Minnesota Medicine	\$10,924.94
Membership Dues	8,449.00
Interest-Bonds and balances.....	233.73
Bonds	4,000.00
Cash on hand, Sept. 20, 1920.....	2,435.42
	<hr/>
	\$26,043.09

DISBURSEMENTS

Minnesota Medicine	\$10,424.26
Dr. Drake, Office Exp.....	153.90
Salaries	1,160.60
Legal Expense	1,250.21
Bonds	4,000.00
Sundries	4,562.52
Cash on hand, Aug. 20, 1921.....	4,491.60
	<hr/>
	\$26,043.09

August 18, 1921

THE PRESIDENT: The next is the report of the Attorneys of the Association, which will be read by the Secretary.

The Secretary read the following report:

REPORT OF ATTORNEYS

Dr. Carl B. Drake,
Secretary,
Minnesota State Medical Association,
Saint Paul, Minnesota

Dear Doctor Drake:

You have requested it, and we make report to the Association covering the work done by us during the year last passed:

Kilbride et al vs. Beacher: This action was brought by Drs. J. S. Kilbride and L. J. Holmberg, practicing at Canby, Minnesota, to recover their professional fees in the care and treatment of Bertha Beacher who had been operated on in the hospital at Canby. While under an anesthetic she received burns from the hot water bags, counterclaimed in the suit for fees, alleging negligence of the doctors causing the burns. The case was brought on for trial and we procured a dismissal on the merits and judgment for the professional fees.

Miner vs. Helland: This action is brought to recover damages on account of alleged malpractice of Dr. G. M. Helland, Spring Grove, Minnesota, in reducing a fracture. The case had rather a protracted history on the right to bring in Dr. M. S. Nelson as a party defendant together with Dr. Helland, on the claim that the doctors were copartners at the time of the alleged malpractice, although Dr. Nelson had nothing to do with the case. The court finally held that Dr. Nelson was a proper party defendant, and the case stands for trial at the December 1921 term at Caledonia.

Krueger vs. Bossingham (2 cases). Singer vs. Bossingham (2 cases): These cases are pending in the District Court of Lincoln county, and involve the alleged malpractice of Dr. O. N. Bossingham, Lake Benton, in obstetrical cases. We tried the Singer case in September 1920 and secured a jury verdict,

but the court granted a new trial by reason of a technical error in the charge. A motion to reconsider the order of the court granting the plaintiff a new trial, is pending with the result that the case likely is on its way to the Supreme Court. The item is a very serious one, and as noted, we have successfully defended it to date, getting a jury verdict but the court has granted a new trial. The plaintiff in the case is Pearl Singer and the companion case is brought by the husband, arising out of the same disability for his expenses and the loss of services of his wife.

In the Krueger case the woman died from Septicemia following childbirth. The case was tried in March 1921 with the result that a verdict was rendered against Dr. Bossingham in the sum of \$5000. Mrs. Krueger left surviving her, a husband and eight children. We have ordered a transcript of the testimony and a motion for a new trial has been argued but no decision has as yet been rendered, with the result that the matter is still pending. We feel that we have an even chance of securing a new trial. The case has many untoward circumstances. Dr. Workman was a witness in the case and rendered valuable assistance to the defense. The companion case is by the husband for his disbursements and the loss of services of his wife from the time of illness to her death. All these cases may stand for retrial at the September term at Ivanhoe.

Hanson as Administrator vs. Schultz et al: This action is pending in Hennepin county and is brought against Dr. Frederick W. Schultz and Dr. F. H. Poppe and the Asbury Hospital to recover damages on account of the death of Lillian Hanson, a child, following an operation for pleural empyema.

Hogan vs. Kohler et al: This action is pending in Hennepin county and is brought to recover damages against Dr. Geo. A. Kohler and Dr. G. W. Kirmse for alleged malpractice in a mastoid operation and the treatment thereof. The case appears to be one of unusual importance. The pleadings are closed and the case is for trial some time before January 1, 1922.

Legislative Hearings: Some bills were proposed at the instance of the Fort Wayne Medical Protective Association relieving against the law of privileged communications and also making two years the period of time within which an action in malpractice might be brought against a physician and surgeon. There was favorable action taken by the House Committee, but the Senate Committee thought there should be no discrimination in favor of physicians and surgeons, as to the time within which actions might be brought against them, the period being in other cases, six years, and the Senate Committee thought also that the present law should remain respecting privileged communications.

Conferences with Secretary: There have been several conferences with the Secretary, Dr. Carl B. Drake, regarding matters of interest to the Association.

Youngren vs. Flower: This action was brought in Ramsey county to recover damages on account of the alleged malpractice of Dr. W. Z. Flower in reducing a compound comminuted fracture of the tibia and fibula into the ankle joint. The case was brought on for trial and we procured a dismissal on the merits.

Seifert et al vs. Minnesota State Medical Association: This action is brought by Drs. Seifert and Graysteen and others similarly situated, members of the Brown-Redwood County Medical Association to annul the revocation of the charter of said Medical Society and the alleged wrongful suspension of the members, and to require a reinstatement of the char-

ter and the memberships. The action is pending and will be heard by the District Court of Ramsey county on September 17th, or later date to be agreed on.

It is to be noted that all actions have been successfully defended with the exception of one, and there seems to be an even chance to relieve against the adverse verdict in that case.

Yours very truly,

MOORE, OPPENHEIMER, PETERSON & DICKSON,
Per G.W.P.

DR. J. F. CORBETT: I should like to ask whether there is any real system in auditing the accounts of the Association. Have these accounts been verified by some auditing company?

THE PRESIDENT: I understand the accounts have been audited.

THE TREASURER: The accounts were audited by a committee appointed by the Chairman of the Council this morning.

DR. CORBETT: It is not fair to put business matters in the hands of doctors. I move that the Board of Councilors be requested to have all financial transactions of the Association audited by some one of the regular auditing companies, and that they publish the returns that have been made. I think we would feel very much more secure if that were done than we do at the present time.

Seconded and carried.

THE PRESIDENT: The reports of the Secretary, the Treasurer, and the Attorneys are now before the House of Delegates for acceptance and adoption.

DR. R. J. HILL: I move that these reports be accepted and adopted.

Seconded by Dr. Wattam and carried.

DR. HILL: I move that Dr. J. G. Cross be selected as a delegate from Hennepin county in place of Dr. J. W. Bell, who is unable to be present, and his alternate is also absent.

Seconded and carried.

THE PRESIDENT: We will now listen to a report from our delegate Dr. Magie, to the American Medical Association.

Dr. W. H. Magie presented the following report:

REPORT OF THE SPECIAL MEETING OF THE
HOUSE OF DELEGATES OF THE AMERI-
CAN MEDICAL ASSOCIATION HELD
IN CHICAGO, ILL., NOV. 11th
and 12th, 1920

Gentlemen:—

Since the last meeting of this house, which was held in St. Paul, October 1920, there has been two meetings of the House of Delegates of the A. M. A. The first meeting was a special meeting held in Chicago, November 11th and 12th, 1920. I attended this meeting; Dr. J. W. Bell was not able to attend. This meeting was in response to a call issued by the Board of Trustees of the A. M. A. for the purpose of amending Chapter XVII of the By-Laws so that it would call for seven dollars per annum as dues, instead of five dollars, as it was at that time.

The meeting was held in special session at the Headquarters of the A. M. A. and was called to order by the speaker of the House, Dr. Dwight Murray of Syracuse, New York. As was stated in the call, the purpose of the meeting was to increase the annual dues of the Association.

The proposed increase became necessary on account of the increasing cost of publishing the journal. The cost of paper and labor had advanced to such a price that the journal was losing money and eventually, would lead it into a state of bankruptcy, if additional income was not provided for.

After listening to reports of various committees and after a thorough debating of the question, it was finally decided that an increase of one dollar per annum, making six in all, five of which should go to the journal, would probably be sufficient, at least for the time being. When the question was finally put to vote, it was carried almost unanimously, only two votes being recorded in the negative. The Section XVII of the By-Laws, was therefore, amended to read six dollars per annum instead of five dollars, as before.

As this meeting was called for the special purpose of amending Section XVII of the By-Laws, no other business came before the House and it adjourned.

The above respectfully submitted for your information.

Yours very truly,
W. H. MAGIE, M. D.

REPORT OF DELEGATES TO THE AMERICAN
MEDICAL ASSOCIATION AT THE LAST
MEETING HELD IN BOSTON,

JUNE 6th, 1921

To the House of Delegates to the Minnesota State Medical Association:

We beg to submit the following report:

Aside from the usual routine business and the hearing of reports from the various committees, the chief interest of the meeting of the House of Delegates centered on a memorial presented by Attorney General Sawyer, concerning the proposed establishment by the Government, of a Department of Public Welfare, under which were to be co-related the various activities pertaining to public health, which are now administered by several different departments of the Government.

This at once brought out a lengthy discussion involving the question of State medicine, and the House of Delegates went unanimously on record as opposing extension of State jurisdiction as applied to the regulation of medicine, except insofar as it was necessary in the control of contagious and communicable disease, and voiced its sentiment as being strongly opposed to the treatment of disease except in institutions maintained by the State.

It affords us pleasure to announce the re-election of Dr. Thomas McDavitt of St. Paul as one of the trustees of the Association.

Respectfully submitted,
J. W. BELL, M. D
Delegate.

JOHN L. ROTHROCK, M. D.
Alternate for Dr. W. H. Magie.

THE PRESIDENT: The report of our delegate to the American Medical Association is now before you. What disposition do you wish to make of it?

It was moved and seconded that the report be adopted. Carried.

DR. HILL: Dr. Scofield from Benson forgot to bring his credentials with him. He represents Kandiyohi-Swift county. I move that he be seated as a delegate from that county.

Seconded by Dr. H. M. Workman, and carried.

The President called for the report of the Editing and Publishing Committee.

In the absence of the Chairman, Dr. Farr, Mr. J. R. Bruce, Executive Secretary of the Association, presented the report as follows:

REPORT OF EDITING AND PUBLISHING COMMITTEE

MINNESOTA MEDICINE has continued to make progress during the last year. We have published a larger volume of material than during any preceding year, the journal averaging 99 pages per issue. Of

this about 30 pages were advertising, and 60 or more pages reading matter.

Printing expense has not decreased and is not likely to for some time to come. The cost of paper stock is much less than it was last year, and we anticipate a considerable saving in this item for the ensuing year.

The journal has not been issued on time for the past few months owing to the printers' strike. This is still in effect, but conditions are rapidly improving and should reach normal within the next month or so. The company printing MINNESOTA MEDICINE lost a very large proportion of its employees, and we feel has rendered very good service under the circumstances. It was felt at one time that we would be compelled to skip one issue, combining two monthly issues in one, but it seems now that this may be avoided.

The August number was issued late owing to the printers' strike above referred to. At the time of closing the books for the year the printer's statement for printing the August number had not been received. This month's issue is therefore not included in the expenses for the year.

From September 18, 1920, to August 18, 1921, we remitted to the Treasurer of the Association on account of advertising executed in MINNESOTA MEDICINE and subscriptions, a total of \$7,636.94
 Credits at \$2.00 per capita for subscriptions to the magazine from September 1920 to August 1921, 1636 members 3,288.00
 Total receipts \$10,924.94

DISBURSEMENTS

Printing \$4,928.44
 Paper stock 2,122.07
 Bruce Publishing Company—for services including cost of telephone, solicitation of advertising, general handling of magazine, telegrams, office postage, stenographic service, etc. 2,231.46
 Editorial expense 817.67
 Miscellaneous, including illustrations, clipping service, second-class postage, mailing wrappers, and other incidentals 324.62
 \$10,424.26

Surplus \$ 500.68
 MINNESOTA MEDICINE is now in its fourth year. From January 1, 1918 to the present time the journal has to its credit. \$28,819.36
 To which should be added accounts receivable 1,327.91

Making a total of \$30,147.27
 The total expenses for the same period have been \$29,556.79
 Leaving a surplus to the credit of the journal to date, of \$590.48

THE PRESIDENT: The report of this Committee is before you.

DR. CORBETT: I would like to ask what the actual circulation of MINNESOTA MEDICINE is?

MR. BRUCE: We are putting out 2200 copies. A copy of MINNESOTA MEDICINE goes to every member of the State Association, of which we have about 1644 at the present time. We send copies of the journal to the exchanges and advertisers. In addition, we send out a number of complimentary

copies. I think last year we had 200 or more paid subscribers in addition to the State Association list. We have considerable distribution of the journal outside of Minnesota.

DR. CORBETT: About 100?

MR. BRUCE: More than that, doctor. As I have said, the membership is about 1644 at the present time, and we have probably 500 outside of that.

DR. CORBETT: What I am trying to get at is the actual subscription list.

MR. BRUCE: The actual subscription list is 1800 or more, that is, paid subscriptions.

THE PRESIDENT: Is there any further discussion? If not, a motion to accept or adopt the report is in order.

It was moved and seconded that the report be adopted. Carried.

THE PRESIDENT: We will next listen to the report of the Committee on Public Policy and Legislation.

DR. J. G. Cross: I wish to present the following report:

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION

To the President and the House of Delegates of the Minnesota State Medical Society:

Your Committee on Public Policy and Legislation begs to submit the following report:

At the last session of the State Legislature, three bills were introduced which required the attention of your Committee. The first, which may be termed the Osteopath bill, was pernicious in its provisions, and if enacted into law would have seriously endangered the present safeguards thrown about the public health of the state of Minnesota. As the provisions of this bill are well known to all members of the Society, it is unnecessary to recount them at this time.

The Osteopath bill was introduced in the House and referred to a Committee, before we knew of it. An effort was immediately made by members of your Committee on Public Policy and Legislation to obtain a hearing during the consideration of the bill, without success. The bill was reported back to the House, and it was only by strenuous and indefatigable work, and the active response of the members of this Society to the appeal of your Committee for help, that the House bill was defeated. The same bill had been introduced in the Senate and referred to a Senate committee.

Our committee was notified that they would be herald by the above Senate committee. We appeared with our attorney ready to state our objections. The bill was never considered in committee, however, the chairman announcing that it had been defeated in the House that afternoon. The defeat of this bill was undoubtedly due to the influence exerted by members of this Society and your Committee, upon members of the Legislature to show them the pernicious features of the bill and that it was undesirable legislation.

Your Committee was called upon to consider two other bills which were introduced at the last session. One was a bill for an act to amend the statute of limitations in regard to actions in certain cases.

The effect of this bill, if passed, would have limited the time for bringing action against physicians, surgeons, dentists, hospitals, sanitariums and others for the malpractice, errors, mistakes, or failure to cure, to within two years instead of at present six years. Your Committee on Legislation and Public Policy, believes this to be a desirable change in the law and favored its passage. It met with strong

opposition, however, and was defeated. The third bill was designed to do away with so called privileged communications in malpractice suits against physicians, surgeons, dentists, hospitals, sanitariums. This bill, was also defeated in spite of the fact that we considered it desirable legislation.

As a result of our experience during the last session of the legislature with the above three bills, your Committee is convinced that its duty as the Committee of the State Society, on Legislation and Public Policy makes it necessary to take an *active* and not a mere *passive* interest in proposed legislation. The State Society as representative of the medical profession of the commonwealth assumes the position that its knowledge and skill lays upon it as a duty, to guard public against incompetent care in cases of illness. No argument should be needed to show that bills will continue to be placed before this and other legislatures for the purpose of permitting the public to be practiced upon by individuals who do not possess the necessary qualifications for treating the sick. The members of the Legislature frankly admit that they are unable to judge the questions involved in medical matters. They state positively, that in the mass of business coming before the House and Senate, it is impossible for them to do more than to hear in committee those interested in pending bills. If no one is interested enough to appear and present his side for or against a bill, it is assumed that he has no interest for or against the bill. There was no qualified physician in either House of the Legislature, so that without watchfulness from outside, it is doubtful whether the members of the State Society or the medical profession would have known until after its passage that such a bill as that proposed by the osteopaths have been introduced. Your Committee, therefore, believes that the action taken at the last meeting of this House of Delegates should be rescinded and the Committee on Legislation and Public Policy should assume, as one of its principal duties, the scrutiny of proposed legislation, and the organization of the medical profession for good, and against bad bills.

Your Committee desires here, to express its appreciation of the stand taken by the honored President of the Society, Dr. Riggs, and for the active and energetic responses of members of the State Society to the call of the Committee for help.

In this connection, also, a suggestion has been made by the Dean of the Medical Department of the State University, that legislation should be enacted in Minnesota requiring all applicants for the group of professions in which medicine belongs, to take an examination in the common scientific branches before a state board of examiners each one of whom should be expert in his own line. It was suggested that such examinations could well be conducted by the University of the state. Your Committee considers this suggestion as worthy of consideration but does not at this time take any action upon the suggestion, it having been made ad interim and not brought before the Society.

The matter of organized and authentic means of publicity to the end that the lay public be properly informed in medical matters, has been at various times, under consideration. Your Committee believes that consideration of this subject is timely and that it is not too early for some action to this end to be undertaken. We had already agreed to incorporate in this report a recommendation that we believe the American Medical Association to be the logical agency through which the public should get authentic information pertaining to matters of public health and other things involving medical ques-

tions. Your Committee is gratified to find that the President of the last House of Delegates, Dr. Dwight H. Murray recommended the establishment of means of communication between the medical profession and the general public concerning matters of medical interest, to promote a better understanding of the aims of the profession, the preventive measures against disease, and the danger of irregular practitioners from ill-conceived medical laws. As the Committee of Reference on Reports of Officers at the A. M. A. meeting expressed approval of the plan as proposed by Dr. Murray, it is likely that the American Medical Association will develop some plan along the line suggested. Your Committee on Legislation and Public Policy, therefore, recommends that the Minnesota State Medical Society express to the Board of Trustees of the A. M. A. the hope that the A. M. A. develop such a plan of publicity.

Respectfully submitted,

J. G. CROSS,
J. T. CHRISTISON,
F. J. SAVAGE,

Committee on Legislation and Public Policy.

At the conclusion of the report, Dr. Cross moved its adoption. Seconded.

DR. W. A. JONES: I would like to suggest in continuation of the suggestions made by the committee that we advertise in the public press in order to counteract the pernicious advertising of these unqualified men. This can be done either under the direction of the American Medical Association or preferably by our State Association, under the direction of a committee from the Minnesota State Medical Association. It seems to me, the public are very anxious to know more about what doctors are doing, what they are thinking about, and how they consider the welfare of the public in health matters, and to that end I think this matter ought to be thoroughly gone over, and we should carefully take up the question of public advertising in the daily press.

DR. CORBETT: I would like to say a word in this connection. There is a ray of hope in what has been said. Newspaper men have called me up and have asked me for information in regard to certain items of medical interest, and whether this thing or that thing is worth publishing. There is a tendency on the part of newspapers to seek out information from the doctors as to what they should bring before the public, and I believe we ought to take advantage of this. In every community where there is a paper published, there should be a committee appointed, and let this committee be selected by the State Medical Association, so that the information the press gets may be censored by an intelligent body of men. While I have not talked with any newspaper men about this, I believe that if we approach them in the right way they would meet us half way and publish propaganda that would be of value to the medical profession.

DR. E. G. McKEOWN: Senator Cassio told us that if we did not wake up as a medical profession, we would wake up too late. Mr. Hall was on your committee, Dr. Riggs, and an osteopath is taking care of him, and he is plugging for the osteopaths. If you go back over the literature you will find that their regular practitioners are making more money out of their trade than we do out of our profession. When the bill was up for consideration Senator Cassio said there were twenty letters written and twenty people present representing irregular practitioners to every one regular practitioner.

DR. J. C. ROTHENBURG: The American people are a gullible class of people when it comes to the practice

of medicine. Every time a State Association or the American Medical Association takes concerted action as a body the public will raise a howl. That has been your experience, as it has been my experience, and then these people will speak about being deprived of American liberty. It seems to me, the best we can do, and I have looked into this matter in its many different phases, is to hammer along and let every one of us educate his clients in his community. I believe that is the best way. Individual propaganda is my idea of reaching the public.

DR. W. A. JONES: I still adhere to the one-page advertisement.

DR. J. G. CROSS: I would like to call attention to one or two things which are most important in our consideration of the matters referred to our Committee. I do not know whether it will be necessary for the House of Delegates to go into the Committee of the Whole to consider these things, or not, but they are as important as anything that will come before us. The first matter is that the action of this House of Delegates practically committed the State Association to a policy of *laissez faire* in the last legislature. I would like to say that your Committee disagreed emphatically with that position, and if this report is adopted it will rescind that action. The State Association will be bound to take an active interest in these matters.

Another thing which I would like to emphasize is this: I have no question in my mind but that the bill can be modified and improved along the lines which have been suggested by our opposition to the last osteopathic bill and will be introduced at the next session of the legislature and undoubtedly will pass. That bill we may expect to see very much improved for passage in the eyes of the members of the legislature by making all of the requirements in the future for the licensing of osteopaths rather hard. The difficulty will be this, as I foresee it: When the licensing bill at present in force was passed by the State legislature, it allowed those men who had been in practice a certain number of years, and were in good standing, and were certified to be in good standing, to continue in practice without examination. You see the effect of this on the legislature. Why should we not do the same thing with so-called reputable men of other schools, as they term it? There is going to be the danger. That is the nigger in the woodpile. That bill is likely to pass in spite of all you can do. I do not like to pose as a crepenger, but the evidence points that way.

The suggestion made by Dr. Jones and incorporated in the Committee's report is a very important one, that is, the education of the public to the need for competent attention by those who care for the sick, and a searching examination for them. You are going to have an osteopathic bill, you are going to have an osteopathic law in Minnesota, I believe, and I do not see how it can be prevented unless our publicity work gathers sufficient strength so that these people will not dare attempt to do these things, but I much fear they will. Please bear in mind that the adoption of this report will rescind the action of the House of Delegates of last year, which is desirable.

THE PRESIDENT: I do not believe the osteopaths will be successful if the idea I have suggested to you with reference to a standardized examination is carried out.

DR. W. A. JONES: What is your idea about the chiropractors? They are in the ascendancy at the present time because they are great advertisers. The osteopaths are afraid of them. The chiropractors have no laws to govern them. There is nothing

said about their conduct or care of the sick, yet they are forging ahead and advertising all the time.

THE PRESIDENT: My opinion of the chiropractors is probably the same as yours. I see no other way of accomplishing our purpose than along the lines I have indicated. It has succeeded in Alberta, in Illinois, and in New York. There is no reason why we cannot accomplish it in Minnesota. With a standardized examination everybody is put on the same level, and nobody can find fault. If this osteopathic bill goes through it is because we let it go through.

The motion to adopt the report was put to a vote and carried.

DR. H. M. WORKMAN: I move that the Chair appoint a Publicity Committee, consisting of three members, of which the President shall be one. Seconded.

DR. F. J. SAVAGE: Before the motion of Dr. Workman is voted on, I would like to call the attention of the House of Delegates to the fact that this matter has been covered in the report that has been read, although it is put up to a committee of the American Medical Association. If there are men enough who have the time to study to the extent of having their opinions go before the public through the daily press on any matter that may be presented to them, so that their opinion is what you might call a finished opinion—if there are three men who are competent to do it and are willing to serve, I have no objections at all. The logical thing is to let it go through the American Medical Association, for the reason that it will take a tremendous amount of time and energy. I question very much if there are any three men scattered in different cities who can give their time to these matters. I would be very glad to see Dr. Jones put on that committee, if this motion prevails. However, as I have said, the logical thing to do is to let the American Medical Association handle it as suggested in the report, and let there be a central station of propaganda to be fed to the different component societies by the headquarters of the American Medical Association. In that manner I think we will get better results.

Motion put to a vote and carried.

THE PRESIDENT: We will listen to the report of the Member of the National Legislative Council Dr. Ritchie.

Dr. Harry P. Ritchie presented the following report:

REPORT OF MEMBER OF NATIONAL LEGISLATIVE COUNCIL

I am appending to my report the Transactions of the Annual Congress of Medical Education, Licensure, Public Health, and Hospitals which met in Chicago, March 1921. Meeting at the same time in Chicago was the Association of Medical Colleges. This is the second meeting that I have attended as a delegate from this Society. The enthusiasm of my report of last year is only augmented by my experience of this year. I presume there is no other body of men gathering from all sources of general, or special medical practice, more representative of the best things of our work. The Congress is as a whole without legislative power and is simply a clearing house for the exchange of ideas upon many policies. This year the discussion of Post Graduate teaching concerned the greater part of the time. The subject was attacked from all aspects, the laboratory as well as the clinical and presented as reports of committees composed of representatives and acknowledged leaders in their departments. In most instances the reports were read by the chairman and

were so exhaustive as to permit of but little discussion. I believe it impossible and even improper to even attempt an abstract of them for such a report as this without becoming very tedious. But anyone interested may find much information on this very important phase of teaching of medicine. The meeting was largely attended, with several foreign representatives, one of whom was most interesting and very prominent in England at this time, Mr. C. C. Choice, the well known surgeon, being the new head of the University Hospital in London recently stimulated to new growth by the Rockefeller Foundation.

HARRY P. RITCHIE.

THE PRESIDENT: What disposition do you wish to make of this report?

It was moved and seconded that the report be accepted and adopted. Carried.

In the absence of Dr. J. E. Hynes, Chairman of the Committee on Social Insurance, the report of this committee was read by the Secretary, as follows:

REPORT OF COMMITTEE ON SOCIAL INSURANCE
To the House of Delegates of the Minnesota Medical Association:

Sirs:

The Committee on Social Insurance desires to submit the following report:

The year past, as well as the one preceding it, has been marked by great unrest. The tendency has been one of breaking away from old ways and traditions. To assume that the medical profession will escape the general upheaval would be folly.

We urge that thought and study be given by the profession to the problem of Social and Industrial Medicine.

After investigation of the English or Panel system the Committee believes that such a system takes away the initiative of the individual physician and thereby impairs by so much the initiative and usefulness of the medical profession. The Panel men are paid irrespective of qualifications and the incentive towards better work is taken away. There is no opportunity for advancement of the individual and the manifest result among the medical men is to stifle the spirit of investigation, and research is practically out of the question as the Panel men are too busy with the trivial problems they meet daily.

The Committee is of the belief that the system is arousing increasing dissatisfaction among the general public and that such a system cannot be satisfactory to the patient.

Were such a system introduced to our own country, the question of political preferment would at once come up and is justly to be avoided.

In Minnesota we already have an approach to social insurance in the industrial lines. We refer to the Employer's Liability Act, an entering wedge toward social insurance, since what is fair to the employed man in industry is equally fair to the family dependent upon such employee and they have the right also to demand protection from the same source, i. e., the state.

As the problem is one for study and one in which the entire profession is concerned and should be informed, and as the Medical School of the University of Minnesota is the teaching and research medical institution of the state, we recommend and strongly urge:

(1) That the Minnesota Medical Association urge its members to give the subject of social insurance thought and study as we believe some form of social or industrial insurance is inevitably to be widely tried throughout the country. We believe that such

study is necessary as a foundation for the settlement of these problems when they present themselves before the legislative bodies.

(2) We urge that the Association recommend to the Board of Regents of the University of Minnesota that a course or courses on industrial medicine be added to the curriculum of the school. We believe that the medical student of today will have an important part in the solution of these problems and deem it just that he be taught concerning the phases of industrial medicine as it exists today and thus be better prepared to meet the problems as they arise.

(3) We recommend that a copy of this report be sent to the President of the University of Minnesota, to the Board of Regents, and to the Dean of the Medical School.

Respectfully submitted,
JOHN E. HYNES, Chairman.
S. MARX WHITE.
CHAS. R. BALL.

THE PRESIDENT: What do you wish to do with this report?

DR. JONES: I move that the report of the Committee on Social Insurance be accepted.

Seconded by Dr. Wattam.

DR. CROSS: I move to amend the motion of Dr. Jones by leaving out the acceptance of that part of the report which recommends the teaching of Industrial insurance in the universities, solely because the whole subject is so unsettled that I think it would be impossible to find any man or any set of men at the present time who could give students anything but a partial view on the subject. We do not know any of us how it is coming out. Of course, we have our individual opinions. Seconded.

DR. JONES: I accept the amendment.

DR. WARREN A. DENNIS: I understand the adoption of this report carries with it the recommendations. I do not know exactly why the University of Minnesota should be requested to take up the subject of social insurance or investigate it. If it means that this association wishes to pass the buck to the University, I would be opposed to it. Social insurance is going to be a very live question in this country in the next year or two. Already commissions have been appointed in twenty different states to study social insurance and bills have been introduced which have narrowly escaped passage. We need to study this matter carefully and also to study the effects of this kind of insurance in England and Germany. As stated in the report, it destroys efficiency and initiative in the men who are doing that class of work. It takes three-quarters of their time in doing clerical work which has absolutely nothing to do with the care of the sick. It enlists the services of men who are the least qualified to take care of the sick and who are not able to stand on their own feet. Men who are thoroughly competent prefer not to do that kind of work. This sort of legislation is absolutely pernicious, but we will have to meet it in the near future. I approve of what is said in the report regarding the tendency to build up a political machine by men who are doing this class of work, who are making a living out of it that they were unable to make before, and we shall, in this country, if we are not careful, see an army of bureaucrats and people upon whom we may become dependent in Washington. I think this is a very important subject, one that we need to consider carefully.

The Secretary was asked to read the recommendations contained in the report of the committee, which he did.

After the reading of the recommendations, Dr. Dennis moved that the thanks of the House of Delegates be extended to the Committee for their valuable report, and that the report be laid on the table.

Seconded and carried.

With reference to the Delegation to Assist in the Collection and Publication of the Papers of the late Dr. H. A. Tomlinson, the Secretary read the following communication from Dr. Aaron F. Schmitt:

August 2, 1921.

Dr. Carl B. Drake, Secretary,
Minnesota State Medical Association,
St. Paul, Minn.

My dear Doctor Drake:

In reply to your letter of July 27 in regard to a report on the collection and publication of the papers of the late Dr. H. A. Tomlinson, I wish to advise that I have been unable to get this committee together, and for this reason will ask that the committee be continued for another year.

Respectfully yours,

AARON F. SCHMITT.

THE PRESIDENT: What will you do with this report?

It was moved and seconded that the report be accepted and the committee continued. Carried.

DR. SAVAGE: It seems to me one very important matter has been passed over rather lightly, and that is with reference to an examining board referred to, requiring that those who propose to practice the healing art in Minnesota shall pass a standardized examination such as that referred to. Now, there will be no session of the legislature this coming year, but any action this State Association may see fit to take a year from this fall must not be any snap judgment. It must be well thought out and a matured opinion arrived at before we want to do anything. Therefore, I move that the President appoint a committee to investigate and report, at the next session of the Minnesota State Medical Association, on the question of a common Examining Board in the four or five fundamentals (Dean Lyon mentioned four fundamentals in his communication) for those who propose to practice the healing art in any form in the state of Minnesota.

Seconded and carried.

THE PRESIDENT: I am deeply appreciative of this action. I feel very keenly along this line and that is our way out.

The next report is that of the Hospital Committee. (There was no response from any member of this Committee).

THE PRESIDENT: We will now listen to a report of the Committee on Cancer. Dr. Verne C. Hunt is Chairman of that Committee.

REPORT OF CANCER COMMITTEE

DR. HUNT: In 1913 the American Society for the Control of Cancer was founded through the meeting of various clubs and various medical societies in this country. The Society was founded in New York City. The Society has 80 directors composed of leading internists, surgeons and pathologists of this country, about 60 of them, and 20 laymen, as directors. The Society during the war was unable to conduct very much in the way of a campaign. The ideas and plans of what the Society desired to accomplish through its organization were the obtaining of information relative to cancer and a dissemination of knowledge of cancer to the public. It has only been recently gotten into a position where this campaign can be conducted and it is their plan to conduct a National campaign the first week in November. A short time ago I was appointed as Regional

Director for the states of Iowa, Minnesota and Montana. Through this directorship a committee of the state of Minnesota have become interested in the work of the American Society for the Control of Cancer. During the session of the Minnesota State Society meeting we shall hold a meeting of this Committee and outline the activities of the Committee for the conduct of this campaign the first week in November. The plans for the organization will be formulated and it is hoped the Committee of members of the medical profession in the state of Minnesota will be called upon individually to aid in this campaign, and it is the sincere wish of the members of the Committee in behalf of the American Society for the Control of Cancer that they respond in this campaign to the best of their ability.

THE PRESIDENT: What shall be done with the report of this Committee?

DR. JONES: I move the report be accepted and the Committee continued.

Seconded and carried.

THE PRESIDENT: We will now listen to the report of the Committee to Formulate a Plan for Reference Committee System.

DR. G. D. Head, Chairman, presented the following report:

REPORT ON REFERENCE COMMITTEE SYSTEM

This committee recommends that a reference committee system similar to that in use by the American Medical Association be adopted by the State Society in order to facilitate its business and give time for the proper consideration of such important matters as may come before the Association. The committee would recommend that these committees be appointed by the incoming president, that each committee consist of three members, and that the chairman of the committees be appointed for a three year period, and the other members for a two year period, one member retiring each year; that matters requiring consideration by the society be referred by the president to the respective committees upon the first day of the session, and that these committees report at the first session of the society upon all matters referred to them holding over from the preceding year, and, on the second day of the session, upon all matters referred by the president the first day of the session.

The committees recommended are as follows:

1. Reference Committee on Section and Section Work.
2. Reference Committee on Rules, Order of Business, Amendments to the Constitution and By-laws.
3. Reference Committee on Public Policy and Legislation, (the standing committee now in existence to act as a reference committee for the House of Delegates upon matters of public policy and legislation).
4. Reference Committee on Medical Education.
5. Reference Committee on Public Health, Hygiene and Sanitary Science, (the standing committee on Public Health to act as a reference committee for the House of Delegates upon these matters).
6. Reference Committee on Miscellaneous Business
7. Reference Committee on Publications: Editing and Publishing of committee to act as the reference committee upon all matters related to the publication of the Journal and other publications.

GEO. DOUGLAS HEAD, Chairman.

W. A. COVENTRY.

LONGSTREET TAYLOR.

At the conclusion of the report, Dr. Head moved the adoption of the report, which was seconded.

DR. JONES: Does the Committee on Publication include propaganda?

DR. HEAD: That was not considered. As Chairman of the Committee, I would not feel justified in acting for the Committee without due and proper consideration. My own individual feeling would be that it would depend largely upon the kind of propaganda that would be prepared. I believe that is a two-edged sword. We don't want to be too careless with it. That is my own feeling. We are able to put up a tremendously strong stand in the community along our professional lines, and I am not sure how far the matter of propaganda ought to be carried by a body of medical men. It requires, Dr. Jones, very careful consideration, and I would not want to act for the Committee nor to accept for the Committee your suggestion at the present time.

DR. WORKMAN: I would like to ask Dr. Head a question. I understand the Editing and Publishing Committee consists of five members. Is it your intention to change this?

DR. HEAD: The intention was, so far as the membership of the committees is concerned, that they shall be newly-created committees. Perhaps that ought to be more clearly stated in the report, and it is a good point you have brought up. It was the intention to have a committee of three; as to the old committees, letting them stand as they are, without change.

DR. WORKMAN: I think it is well to have that understood.

The motion was put to a vote and carried.

The President called for the report of the Committee to Attend the Next Meeting of the State Teachers Association, but there was no response.

The President called for the report of the Committee to Confer with the Minnesota Health Committee.

The Secretary read the following:

The untimely death of Dr. Charles E. Smith, Jr. on July 13, 1921, prevented his submitting a report of the Committee to Confer with Minnesota Health Committee. The conference met in St. Paul in January 1921, during the time Dr. Smith was south for his health, but the program was participated in by the other member of the committee. Nothing was referred to this committee by the Conference for its consideration.

THE PRESIDENT: What will you do with this report?

DR. HILL: I move its acceptance.

Seconded and carried.

Dr. H. C. Cooney, Princeton, presented the report of the Committee on Necrology, as follows:

REPORT OF COMMITTEE ON NECROLOGY

Dr. Flora L. Aldrich, of Anoka, Minnesota, graduate of University of Minnesota 1887, died March 19, 1921. Dr. Aldrich was a woman of culture, dignity, force and ease of manner; her work exemplified the highest and best in medical ideas and practice. She was always keenly interested in the affairs of the nation, and those of her own state, an untiring worker for the support of all institutions and undertakings to benefit the community in which she lived.

Dr. O. W. Anderson of Rochester, Minnesota, died at his home December 26, 1920, aged 80 years.

Dr. Thomas Leger Firth Armitage, Princeton, Minn., graduate of Medico Chirurgical College, Philadelphia 1892, died June 3, 1921. Dr. Armitage was a successful popular physician of the old school highly esteemed in the locality where he lived and practiced his profession for twenty years. Member of the A. M. A., Royal Society of Arts, London; Fel-

low Hon. Council, North British Academy of Arts, England, and a 32nd degree Mason.

Dr. Frederick R. Baldwin, physician at Glen Lake Sanitarium, died at the University Hospital, in November 1920.

Dr. E. J. Batchelder, assistant in Pediatrics at the University of Minnesota, died in Minneapolis, September 1920, aged 54 years.

Dr. Jasper Bedint died at his home in Kasson, Minnesota, November 24, 1920, aged 82 years.

Dr. Jehell Weston Chamberlain, St. Paul, was born Oct. 23, 1857, at Rock Falls, Wis. He received his early education at Galesville Academy, Wisconsin, and his medical degree at Rush Medical College in 1882. After practicing for 3 years at Eau Claire, Wis., he moved to St. Paul in 1885. At various times he was president of the Ramsey County Medical Society, the Minnesota Academy and the Minnesota Ophthalmological Society. Death occurred June 14, 1921.

Dr. W. E. Chapman, Litchfield, Minn., graduate of Vermont State University, Burlington, Vermont 1879, died Feb. 5th, 1921.

Dr. T. A. Conley of Cannon Falls, died at his home Sept. 12, 1920, aged 72 years. He had practiced medicine forty-four years and was well known in medical circles.

Dr. Ira Leslie Edmonds, Clearwater, Minn., University of Michigan and Rush College 1884, member Minnesota State Medical Association, died January 2, 1921.

Dr. J. C. Farmer, McKinley, Minn., University of Minnesota, member of Minnesota State Medical Association, died Feb. 8, 1921

J. C. Farmer, M. D., of McKinley, Minn., University of Minnesota 1895, died February 10, 1921.

Dr. J. C. Fitch, for more than fifty years a practicing physician of Hastings, died at his home July 23, 1920. He was a graduate of Rush Medical College and a veteran of the Civil War.

Dr. E. S. Frost of Minneapolis, Minn., born at St. Johns, Canada, April 1, 1843, graduated from the University of Pennsylvania 1868. Died May 3, 1921.

Dr. George L. Gates, pioneer physician of Winona, died at the home of his brother in St. Paul, July 4, 1920, aged 82 years. He was born in Connecticut, and came to Minnesota soon after the Civil War.

Dr. Arthur J. Gillette's prominence in the field of Orthopedic Surgery is world wide, and in his death Minnesota has suffered a great and enduring loss. The one great ambition of his life, the Hospital for the Crippled and Deformed, at Phalen Park, the first institution of its kind in America, stands as his personal and professional monument. Service was the key-note of the life of Arthur Gillette. The smiles of the children whose lives he lengthened, whose suffering he assuaged and whose deformities he corrected, will be his welcome in the world to which he has gone. Dr. Gillette was born October 28, 1863, died March 24, 1921.

Dr. James Wily Grant of Richville, Minnesota, died April 8, 1921, at the age of 74 years.

Dr. William Hambroer of Eden Valley, Minnesota, died on November 19, 1920, at the age of 72 years.

Dr. William L. Hollister of Austin, Minn., graduated in New York 1861, died Feb. 25, 1921.

The death of Dr. William A. Hunt of Northfield, which occurred on January 27th, 1921, represents a heavy loss not alone to his family members, friends and patients, but to the medical profession. Dr. Hunt was born in Northfield in 1858. He was educated in the public schools and Carleton College of his native town, prior to completing a medical course at the University of Michigan in 1882. At the time

of his death he held one of the Vice Presidencies of the State Medical Society and was one of its strongest, most influential members.

Dr. J. C. Hvoslef, was born in Norway, August 24, 1839; died October 11, 1920. He graduated from the University of Norway at Christiana and practiced medicine at Lanesboro from 1876 until the time of his death.

Dr. Adolph A. Just, Crookston, Minn., Illinois 1881, died March 4, 1921, aged 70 years.

Dr. Arthur G. Kessler, physician in charge of the Sunnyrest Sanitarium, Crookston, a specialist in Tuberculosis, died Sept. 10, 1920. Born in Bryant, Indiana, 1876. At one time he was in charge of the Ottertail Sanitarium at Battle Lake.

Dr. Howard Lankester, for twenty-five years one of the best known physicians of St. Paul, died July 30, 1920, at Columbus Hospital, Milwaukee, being 76 years old. In October 1918 when the influenza was at its height, Dr. Lankester, although 72 years old, volunteered his services to the government.

Dr. George W. McIntyre of St. Peter, Minn. Died July 11, 1920, aged 67. He was born in Cleveland, Ohio, September 28, 1853, and received his medical education at the Minnesota Hospital College, Hamline, Minnesota. For several years he was assistant physician to St. Peter Hospital (State) and afterwards engaged in private practice in the city of St. Peter, Minn.

Dr. Carl V. Malmgren of Virginia, Minn., Illinois 1895, died March 1921.

Dr. F. R. Mosse, of Rochester, Minnesota, died on December 25, 1920, at the age of 65 years.

Dr. Burton J. Merrill was born in 1856 in Palmyra, Iowa. He graduated from Grinnell College in 1875 and received his M. D. at the Bellevue Hospital Medical College, New York in 1881. In the early days Dr. Merrill was Professor of Materia Medica at the St. Paul Medical College. He was for a number of years physician and surgeon of the Minnesota State Prison.

Dr. Harry R. Nordley of Minneapolis was born Nov. 8, 1887. A graduate in 1912 of the University of Minnesota, in 1917 he enlisted and was a member of Navy Base Hosp. No. 13, stationed at Minneapolis.

Dr. Charles K. Roys a graduate of the College of Physicians and Surgeons, N. Y., died at Rochester, Minn., September 1920. Dr. Roys had charge of a hospital in Shantung, China, for twelve years and was decorated by the Emperor for services rendered there, as Medical Missionary.

Dr. Charles Eastwick Smith, Jr., St. Paul, died July 31, 1921. He was born in St. Paul January 1882, received his B. A. at Yale University in 1904 and his M. D. from the University of Pennsylvania in 1908. At various times he was associated with the editorial staff of the St. Paul Medical Journal, the City Health Department and the United States Public Health Service. He was the Executive of the Minnesota Board of Health until shortly before his death.

Dr. Alfred Eugene Spalding was born in Sault Saint Marie, Michigan, Sept. 24, 1851, died December 4, 1920. He practiced at Luverne for forty-two years, and will be sorely missed by the Southwestern Minnesota Medical Society and the Sioux Valley Medical Association, for in both of these he took a deep interest, seldom missing a meeting.

John C. Stout, M. D., Oakland, California, American Medical College, St. Louis 1878. Died January 17, 1921, aged 74.

Dr. J. Harlan Stuart, was born in North Carolina, 1836. He graduated from Bellevue, N. Y., in 1867. In 1903 he became interested in x-ray work and was the first man in Minneapolis to devote his time ex-

clusively to this work, which he continued until about a year before he died, although over 80 years old.

Dr. L. A. Ward, Bemidji, Minn., University of Illinois 1895, died January 16, 1921.

Dr. Frorado H. Welcome of Minneapolis, died December 22, 1920, at his home, at the age of 62 years.

Dr. E. E. Wells of Stillwater, died at his home in that city, May 17, 1920. He was born on a farm near Rockford, Ill., Dec. 8, 1870. He graduated from the Northwestern University Medical School in Chicago, Ill., 1898, and practiced his profession in Stillwater from 1903 until the time of his death.

Dr. John Gooch Whittemore of Donnelly, Minnesota, died at his home November 22, 1920, at the age of 49 years.

Dr. Van Wilcox died at his home in Minneapolis, aged 48 years, July 20, 1920. He graduated from the University of Minnesota, and practiced in Minneapolis for about fifteen years.

Dr. Alonzo P. Williams died Oct. 22, 1920, at his home in Santa Monica, California. Dr. Williams specialized in nervous diseases, and practiced in Minneapolis 12 years ago.

THE PRESIDENT: The grim reaper has been very active in our profession during the past year. This report is now before you. What do you wish to do in regard to it?

DR. CORBETT: I did not hear the name of Dr. A. C. Fairburn mentioned in the report of the Committee on Necrology, who died this summer.

DR. HILL: Dr. Fairburn was one of the prominent members of this Association. Within the last ten years he has been superannuated, living in Minneapolis, and has not been engaged in the practice of medicine. He was taken sick, and was taken to the City Hospital, where it was discovered he was suffering from malignant disease of the throat and pancreas, and died within two or three weeks after the discovery of the nature of his trouble. He was one of the ablest men we ever had in Minneapolis. Twenty-five years ago he was the type of the old school physician. He did the first laparotomy ever done in Minneapolis. He would do anything from the removal of a cataract to an ingrowing toe nail. He was ready for any emergency. He was a graduate of McGill University, and a wonderfully competent man. He had an enormous practice at one time. We considered him the best general practitioner we ever had in Minneapolis.

THE PRESIDENT: Was Dr. Chamberlain's name included in this list? It is difficult for me to say anything about him. We have been friends ever since I came to Minnesota. Many of you know him well. He had one of those sunny, delightful personalities that was all encompassing. You always felt better after you talked with him. As a physician, eye and ear man, he was very successful. Nothing can be added to the magnificent life which he lived. He lived up to the highest professional ideals. With that understanding, this report is before you for adoption.

It was moved that the report be adopted. Seconded and carried.

THE PRESIDENT: Is there any unfinished business to come before the meeting, Mr. Secretary?

THE SECRETARY: Nothing that I know of.

THE PRESIDENT: Is there any new business?

DR. C. L. SCOFIELD: There is another matter associated with the legislative committee. We have in this state an increasing interest manifested by the laity in regard to public health matters, and our

lay organizations are interested in public health. We have, outside of St. Paul and Minneapolis, 75 school nurses working throughout the state, and the people are largely working under committees of lay people. I need not say to this House of Delegates that public health is primarily a medical proposition. We have also an increasing number of chiropractors and osteopaths who are holding the positions of medical health officers in the state. They are using these positions to the limit for advertising purposes, and the reason this is possible is because the medical men of the state in some instances refuse to accept the miserable compensation that townships and villages are willing to pay for the services of those officers.

I would move that this House of Delegates urge upon the members of the State Association their active interest in all public health affairs in their localities and the acceptance of positions as health officers regardless of the financial returns, in order that the best interests of public health may be served.

Seconded by Dr. Wattam, and carried.

THE PRESIDENT: Is there any other business to come before this meeting? If not, a motion is in order to adjourn until Friday morning, at 10 o'clock, at the Commercial Club.

DR. HILL: I move we now adjourn until 10 a. m. Friday.

Seconded and carried.

The House of Delegates thereupon adjourned.

FRIDAY, AUGUST 26, 1921

The House of Delegates met pursuant to adjournment at 10 o'clock a. m., in the Commercial Club, Duluth, Minnesota, President Dr. C. Eugene Riggs, presiding.

THE PRESIDENT: The House of Delegates will please come to order. The first order of business is the report of the Committee on Credentials—Dr. Hill?

DR. HILL: I don't know, Mr. President, how it is possible to read the list. Have all of the members present handed in their credentials?

No response being made Dr. Hill read the list of delegates with the following changes:

Ramsey County:—J. T. Christison, St. Paul, Robert Earl, St. Paul, replacing Frank Savage, St. Paul.

Personnel of House of Delegates, as organized.

SOCIETY	DELEGATES
Blue Earth Valley	Dr. H. J. Lloyd, Mankato.
Camp Release Dist.	Dr. E. M. Clay, Renville.
Central Minn. Dist.	Dr. H. C. Cooney, Princeton.
Freeborn County	W. L. Palmer, Albert Lea
Hennepin County	W. A. Jones, Minneapolis.
	R. R. Knight, Minneapolis.
	M. J. Lynch, Minneapolis.
	J. F. Corbett, Minneapolis.
	E. K. Green, Minneapolis.
Kandiyohi-Swift Co.	C. L. Scofield, Benson.
Olmstead County	H. Z. Giffin, Rochester.
	A. H. Logan, Rochester.
Ramsey County	F. J. Savage, St. Paul.
	E. M. Hammes, St. Paul.
	C. N. Hensel, St. Paul.
Redwood-Brown Co.	J. C. Rothenberg, Springfield.
Red River Valley	G. S. Wattam, Warren.
Rice County	H. E. Nelson, Crookston.
St. Louis County	M. L. Mayland, Faribault.
	N. H. Gillespie, Duluth.
	C. L. Haney, Duluth.
	O. W. Parker, Ely.
Southwestern Minn.	E. G. McKeown, Pipestone.

Stearns-Benton Co.	W. L. Beebe, St. Cloud.
Steele County	J. W. Andrist, Owatonna.
Washington Co.	W. R. Humphrey, Stillwater.
Wabasha County	G. Schmidt, Lake City.
Wright County	Victor Rousseau, Maple Lake.

(The resignation of Dr. J. Frank Corbett, of Minneapolis, was here tendered.)

THE PRESIDENT: You have heard the report of the Committee on Credentials. What is your pleasure in regard to it?

Motion to accept said report seconded and carried.

THE PRESIDENT: We are pressed for time. I understand there are all sorts of banquets to be served here. Now, as to the reading of the minutes, most of you are familiar with them.

Motion to dispense with the reading of the minutes of previous meeting seconded and carried.

THE SECRETARY: The only thing that I have to take up before the House of Delegates is the recommendation of the Council, which was made this morning, at the morning meeting.

The Council recommends to the House of Delegates that the reports of the Treasurer and Secretary and MINNESOTA MEDICINE be made to the end of the month last preceding that when the meeting is to be held.

Recommendation briefly discussed and motion was made to accept same, which was duly seconded and carried.

THE PRESIDENT: Any new business? (No response).

THE PRESIDENT: Next comes one of the most important functions of this House of Delegates, the election of a President. Nominations for president?

DR. CROSS: I would like to place in nomination the name of a man who is very well known all over the state. He had made good in every department of medicine that he has undertaken, and who is 100 per cent plus American, if such a thing is possible; Dr. J. Frank Corbett, of Minneapolis.

THE PRESIDENT: I am no parliamentarian, but there is a question that arises in my mind. There is nobody I think more of than Dr. Corbett. In the first place, he is a delegate here; he cannot run for president according to the rules.

DR. HILL: He resigned. I read his resignation this morning. This was established in the case of Dr. Little some years ago; it was precisely the same state of affairs. He was a member of the House of Delegates and resigned and elected president at the same meeting.

THE PRESIDENT: Will you read that resignation?

THE SECRETARY: "August 25, 1921. To Executive Committee, Hennepin County Medical Society: I hereby tender my resignation as delegate to Minnesota State Medical Association.—J. F. Corbett." "Accepted at Special meeting, Executive Committee, August 26, 1921. E. H. Greene, Chairman pro tem; James S. Reynolds, W. R. Murray, A. E. Benjamin, J. F. Corbett."

DR. WORKMAN: Wouldn't that action practically nullify that part of the constitution?

THE PRESIDENT: This is for you to decide.

DR. CROSS: If we had had foresight enough to see what was coming, we would not have elected him as a delegate to this body. We did that thing and here we are. It does seem to me to be a contemptible thing to do, not to elect to office a man who is allowed to resign because the holding of the present office interferes with his old one.

Motion to accept nomination of Dr. Corbett made and seconded.

DR. SCOFIELD: I move that this question of the legality of this action be referred to the Council.

THE PRESIDENT: There is a motion before the House. Now, are you ready for the question?

Seconded and carried.

DR. SCOFIELD: I renew my motion that this legality be referred to the Council.

THE PRESIDENT: It is moved and seconded that the legal part of this business be referred to the Council. All in favor say "Aye".

The vote could not be ascertained and a standing vote was taken. Motion lost.

DR. CROSS: At the next meeting of the House of Delegates someone should introduce an amendment to the constitution which will do away with this provision.

THE PRESIDENT: Any other nominations?

Motion made that the Secretary be instructed to cast a ballot of the House of Delegates for the election of Dr. Corbett as President; motion seconded and carried; the Secretary casts said ballot.

Dr. S. H. Boyer, of Duluth, nominated for First Vice President. Nomination seconded and Secretary instructed to cast a ballot of the House of Delegates for the election of Dr. Boyer as First Vice President, with which the Secretary complied.

Dr. A. W. Ide, of Brainerd, nominated for Second Vice President. Nomination seconded and Secretary instructed to cast a ballot of the House of Delegates for the election of Dr. Ide as Second Vice President, which was done.

Dr. John Williams, of Lake Crystal, nominated for Third Vice President. Nomination seconded and the Secretary was instructed to cast a ballot of the House for the election of Dr. Williams, as Third Vice President. This was complied with.

Dr. Carl B. Drake, of St. Paul, was nominated for Secretary, which nomination was seconded and he was duly elected.

Dr. F. L. Beckley, of St. Paul, was nominated for Treasurer, which nominated was seconded and he was duly elected.

Dr. C. E. Dampier, of Crookston, nominated as Councilor for the First District, nomination seconded and he was duly elected.

Dr. R. J. Hill, of Minneapolis, nominated as Councilor for the Fourth District, nomination seconded and Dr. Hill declared elected.

Dr. F. A. Dodge, of Le Sueur, nominated as Councilor for the Seventh District, nomination seconded and he was declared duly elected.

Dr. J. W. Bell, of Minneapolis, was elected as delegate to the American Medical Association. Dr. F. L. Adair, of Minneapolis, elected as alternate.

It was moved and seconded that the President-elect be authorized to appoint all committees under the Constitution and By-Laws, for the ensuing year. Motion carried.

THE PRESIDENT: Any unfinished business? (No response). Any new business? (No response).

Adjournment at 11 o'clock a. m.

THE MINNESOTA STATE MEDICAL ASSOCIATION: MINUTES OF THE MEDICAL SECTION 1921

THURSDAY, AUGUST 25, 1921

The first session of the Medical Section of the Fifty-third Annual Meeting of the Minnesota State Medical Association was called to order in the Spalding Hotel, Duluth, at 9:15 a. m., by the Chairman, Dr. S. H. Boyer, Duluth.

Dr. Thomas R. Martin, Duluth, read a paper on "Duodenal Ulcer Treatment, Late Results". Discussed by Drs. H. K. Schaaf, Minneapolis; Charles B.

Wright, Minneapolis; Gustav Schwyzer, St. Paul, and L. L. Merriman, Duluth.

Dr. A. H. Sanford and Dr. T. B. Magath, Rochester, presented a paper entitled "The Etiology and Laboratory Diagnosis of Actinomycosis". Discussed by Drs. Gordon B. New, Rochester; N. L. Linnemann, Duluth, and Moses Barron, Minneapolis.

Dr. W. Ray Shannon, St. Paul, read a paper entitled "Anaphylaxis to Food Proteins in Breast-Fed Infants and Its Probable Relation to Certain Diseases of the Nursing Infant, Especially Exudative Diathesis." Discussed by Drs. J. T. Christison, St. Paul; S. E. Sweitzer, Minneapolis; T. L. Birnberg, St. Paul; A. H. Sanford, Rochester; Arthur H. Schwartz, Duluth; C. N. Hensel, St. Paul, and the discussion closed by Dr. Shannon.

Dr. S. E. Sweitzer, Minneapolis, presented a paper on "Dermatology and Internal Medicine". Discussed by Drs. N. L. Linnemann, and Arthur H. Schwartz, Duluth.

Dr. Moses Barron, Minneapolis, read a paper entitled "Carcinoma of the Lung; A Study of Its Incidence, Pathology and Clinical Importance With Report of 18 Cases Studied at Necropsy." Discussed by Drs. Gustav Schwyzer and Margaret Warwick, St. Paul.

Dr. Frank Spicer, Duluth, who was to have presented a paper entitled "Differential Diagnosis Between Tuberculosis and Other Lung Conditions" was unable to be present so his paper was not read.

Dr. Charles N. Hensel, St. Paul, read a paper on "Referred Pain in Heart Disease". Discussed by Dr. E. L. Tuohy, Duluth.

Dr. T. L. Birnberg, St. Paul, presented a paper on "The Differential Diagnosis Between Myxedema, Mongolian Idiocy, Rickets and Congenital Syphilis, with Special Reference to the X-Ray as a Diagnostic Aid." Discussed by Dr. O. W. Rowe, Duluth.

Adjournment at 1:00 p. m.

AFTERNOON SESSION

There was a joint meeting with the Section on Surgery, Thursday afternoon, Aug. 25, 1921.

MINUTES OF THE SURGICAL SECTION AND JOINT MEETINGS

The first session of the Surgical Section met in the large assembly room of the Spalding Hotel and was called to order at 9:30 a. m. by the Chairman of the Section, Dr. John T. Rogers, St. Paul.

Dr. Verne C. Hunt, Rochester, read a paper entitled "Submucous Ulcer of the Bladder and Its Surgical Treatment," which was discussed by Drs. Thomas, Schwartz, Braasch, and in closing by the essayist.

Dr. Robert Earl, St. Paul, read a paper entitled "Cystocele and Prolapse," which was discussed by Drs. McLaren, Coventry, Magie, Benjamin, Mann, Braasch, and in closing by the essayist.

Dr. J. Frank Corbett, Minneapolis, followed with a paper entitled "Surgical Treatment of Painful Scars." This paper was discussed by Drs. Schwyzer, Mann, Michael, Bratrud, Farr, and in closing by Dr. Corbett.

Dr. Wallace H. Cole, St. Paul, read a paper entitled "Treatment of Tuberculosis of Spine," which was discussed by Drs. Kuth, Geist, Henderson, Doolittle, and in closing by the essayist.

Dr. A. W. Ide and Dr. B. I. Derauf, Brainerd, contributed a joint paper entitled "Suspensions and Traction in the Treatment of Fractures." This paper was discussed by Drs. Braden, Daugherty, Henderson, More, and in closing by Dr. Ide.

Dr. Gilbert J. Thomas, Minneapolis, read a paper entitled "Urinary Lithiasis in Childhood and In-

fancy." This paper was discussed by Dr. Collins, after which the discussion was closed by the essayist.

On motion, the Section adjourned until 9 a. m. Friday, August 26.

JOINT MEETING OF THE MEDICAL AND SURGICAL SECTIONS

The meeting was called to order by President C. Eugene Riggs.

Major S. F. Snively delivered an address of welcome.

In the absence of Dr. Arthur N. Collins, Vice President, Dr. John T. Rogers introduced President Riggs, who delivered an address entitled "Minnesota Medicine in the Making; Personal Reminiscences."

Dr. Margaret Warwick, Minneapolis, read a paper entitled "Intestinal Polypi and Their Relation to Carcinoma."

Dr. Joseph C. Bloodgood, Baltimore, Maryland, read a paper (by invitation) entitled "Diagnosis of Breast Tumors by Exploratory Incision," which was discussed by Dr. MacCarty, and in closing by the essayist.

On motion, the meeting adjourned until 9 a. m. Friday, August 26.

FRIDAY, AUGUST 26

SECOND SESSION OF THE MEDICAL SECTION

The second session of the Medical Section of the Fifty-third Annual Meeting of the Minnesota State Medical Association was called to order in the Spalding Hotel, Duluth, at 9:05 a. m., by the Chairman, Dr. S. H. Boyer, Duluth.

Dr. Henry L. Ulrich and Dr. Morris Nathanson, Minneapolis, presented a paper on "The Vital Capacity of the Lungs in Cardiac Disease." Discussed by Drs. M. D. Nathanson, Minneapolis, Harold L. Rybins, Minneapolis, and Moses Barron, Minneapolis.

Dr. Orville N. McLeland, Warren, read a paper entitled "The Results in Treatment of Inflammatory Diseases of the Gall Bladder and Its Ducts." Discussed by Drs. H. L. Ulrich, Minneapolis; Charles B. Wright, Minneapolis; Soren P. Rees, Minneapolis, and H. L. Lloyd, Mankato.

Dr. Porter P. Vinsun, Rochester, presented a paper on "Hysterical Dysphagia." Discussed by Drs. R. I. Rizer, Minneapolis, and S. H. Boyer, Duluth.

Dr. Henry W. Wolman, Rochester, addressed the Section on "Arteriosclerosis of the Nervous System." Discussed by Drs. E. M. Hammes, St. Paul; E. L. Tuohy, Duluth; Moses Barron, Minneapolis, and the discussion closed by Dr. Wolman.

Dr. C. A. Scherer, Duluth, read a paper on "Manifestations of the Spasmophilic Diathesis in Older Children". Discussed by Drs. T. L. Birnberg, St. Paul; Henry W. Wolman, Rochester; Herbert Wm. Jones, Minneapolis, and the discussion closed by Dr. Scherer.

Dr. J. A. Myers, Minneapolis, addressed the Section on "A Comparison of Lung Capacity Readings and Physical Signs in Pulmonary Tuberculosis". Discussed by Drs. S. Marx White, Minneapolis; Harold L. Rybins, Minneapolis, and the discussion closed by Dr. Myers.

Dr. C. A. McKinley, Minneapolis, read a paper entitled "Report of an Epidemic of Paratyphoid Fever Among University Students". Discussed by Drs. S. Marx White, Minneapolis; Albert J. Chesley, Minneapolis, and J. A. Myers, Minneapolis.

Dr. J. C. Michael, Minneapolis, presented a paper on "Mental Hygiene and the General Practitioner". Discussed by Dr. William A. Jones, Minneapolis.

Adjournment at 12:30 p. m. sine die.

AUGUST 26—SECOND SESSION OF THE SURGICAL SECTION

The Section met at 9 a. m. and was called to order by the Chairman.

Dr. Benjamin Davis, Duluth, read a paper entitled "Blastomycosis; Clinical Pathology and Therapeutics," which was discussed by Dr. Schwartz.

Dr. Horace Newhart, Minneapolis, read a paper on "Pyemias of Otitic Origin," which was discussed by Drs. Murray, Morseman, and in closing by the essayist.

Dr. Carl Hedblom, Rochester, read a paper entitled "The Treatment of Pericarditis with Effusion," which was discussed by Drs. Wallace, Magie, Baker, and in closing by the essayist.

Dr. W. A. Coventry, Duluth, read a paper on "Potter Version," which was discussed by Drs. Barry, Manley, Farr, Magie, and in closing by the essayist.

Dr. E. K. Green, Minneapolis, read a paper entitled "Principles Governing the Treatment of Fractures." The paper was discussed by Drs. Corbett, Henderson, Benjamin, Lenont, More, after which the discussion was closed by the author of the paper.

Dr. F. C. Schuld, St. Paul, read a paper entitled "Marginal and Jejunal Ulcers Following Gastrectomy," which was discussed by Drs. Carroll, Corbett, and in closing by the essayist.

Dr. Emil S. Geist, Minneapolis, read a paper entitled "Circulatory Foot Disturbances," which was discussed by Drs. Kuth, Henderson, and in closing by essayist.

Dr. J. F. Plondke, St. Paul, read a paper entitled "Goiter Surgery," which was discussed by Drs. Schwizer, Chapman, Williams, and in closing by the essayist.

Adjourned.

AFTERNOON SESSION

There was a joint meeting with the Section on Medicine, Friday afternoon, Aug. 26, 1921.

JOINT MEETING OF THE MEDICAL AND SURGICAL SECTIONS, FRIDAY, AUGUST 26, 1921

The meeting was called to order at 2 p. m. by President Riggs:

The President appointed Drs. W. A. Jones and R. J. Hill to escort the President-Elect, Dr. Frank J. Corbett, to the chair.

President Riggs, in introducing the President-Elect said: Dr. Corbett, I welcome you most kindly. The House of Delegates in honoring you has honored itself. Ladies and gentlemen, it gives me great pleasure to introduce to you a typical American, a distinguished surgeon, a real man, Dr. Corbett, of Minneapolis, your President-Elect. (Applause).

Dr. Corbett, in accepting the presidency, said: Mr. President and Members of the Minnesota State Medical Association: I cannot let the opportunity pass to thank you for the honor that you have conferred upon me. When I turn to my predecessors and consider the names of those who have occupied this position before, my heart feels sick, and I feel the mantle has fallen upon very weak shoulders; and I feel this at this particular time because I believe from the bottom of my heart the medical profession is confronted with problems that are more serious than the problems of the past. You know what these problems are. England has learned them at her own expense. Quacks have flourished since the beginning of the world, and in behalf of humanity we cannot let these people educate the public to their way of thinking. That is a problem that is before you during these years, and there is no one man in the chair or out of the chair or a committee that is big enough to handle it. Every member of

this Association must shape the destiny of the medical profession during the next few years.

I want to thank you again for the distinguished honor you have conferred upon me, and I also want to ask you to keep this big problem in view and for you to so advise me and help me that I may serve as your spokesman during this time. (Applause).

Dr. J. D. Lewis, Minneapolis, read a paper entitled "Cosmetic Rhinoplasty", which was illustrated with lantern slides.

At this juncture, Dr. Arthur N. Collins, Duluth, took the chair.

Dr. A. J. Chelsey, Minneapolis, Director of Preventable Diseases of the State Department of Health, was introduced and spoke on "Infantile Paralysis in Minnesota." (See Editorial page in this issue).

Dr. Charles H. Mayo, Rochester, read a paper entitled "The Relief of Jaundice Due to Pancreatic Obstruction."

Dr. S. M. White, Minneapolis, read a paper entitled "A Clinical Estimate of Myocardial Damage."

Dr. B. S. Adams, Hibbing, read a paper entitled "The Gall-Bladder as the Source of Focal Infection."

The Secretary, Dr. Carl B. Drake, presented a summary of the proceedings of the House of Delegates and of the Councilors, as follows: Your Secretary wishes to report a registration of 304 at this meeting out of a total membership of 1,649 (which is an increase this year of 101 over last year's membership).

The Treasurer's report showed that the income of the Association during the past year was about \$2,000.00 more than its expenses, and MINNESOTA MEDICINE was \$500.00 within the amount of its income and the amount appropriated by the State Association. The legal expenses were about \$1,200.00.

The House of Delegates met twice and the Council three times. The Council decided to revoke the charter of the Aitkin County Medical Society, as they requested, with the understanding that their membership would be transferred to the Upper Mississippi Medical Society.

The Council has decided to leave the pending suit of the former Brown-Redwood County Society against the State Medical Association in the hands of their law firm. This suit will go to trial in September.

The House of Delegates elected the following officers: President- Dr. J. Frank Corbett, Minneapolis; First Vice President, Dr. S. H. Boyer, Duluth; Second Vice President, Dr. A. W. Ide, Brainerd; Third Vice President, Dr. John Williams, Lake Crystal; Secretary, Dr. Carl B. Drake, St. Paul; Treasurer, Dr. F. L. Beckley, St. Paul; Councilor of the First District, Dr. C. E. Dampier, Crookston; Councilor of the Fourth District, Dr. R. J. Hill, Minneapolis; Councilor of the Seventh District, Dr. F. A. Dodge, Le Sueur; Delegate to the American Medical Association, Dr. J. W. Bell, Minneapolis; Alternate, Dr. F. L. Adair, Minneapolis.

It was decided to hold the next meeting in Minneapolis the second week in October 1922.

THE PRESIDENT: What will you do with this report presented by the Secretary?

DR. W. H. MAGIE: I move that it be adopted. Seconded and carried.

THE PRESIDENT: Is there any further business to come before the meeting. If not, a motion is in order to adjourn. I do not think, after the magnificent hospitality of the men of Duluth, that we should close this session without an expression of our gratitude to the medical profession of Duluth. I also want to emphasize the splendid success of this meeting. You all know that the papers were scholarly and well prepared, and the discussions admirable, and I do not see what more could be asked to make a complete success of our scientific session.

I think the men all over the state have a peculiar fondness for the medical men of Duluth. So far as I am personally concerned, that fondness extends from the time when I first came here and it has grown with the years, and I feel we would be leaving undone a very manifest duty not to have one of you gentlemen make a motion, and let it be carried, expressing our gratitude for the hospitality that has been extended to you.

DR. R. E. FARR: I would like to make such a motion as Dr. Riggs suggests.

Seconded and carried.

As there was no further business to come before the meeting, on motion, which was duly seconded and carried, the Association then adjourned to meet in Minneapolis the second week in October 1922.



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